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**A Comprehensive Study
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**EDUCATION
IN
KARNATAKA**

D JAGANNATHA RAO



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A Comprehensive Study of the Progress of

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EDUCATION IN KARNATAKA

With Complements to
Dr. Dey

Director, SCERT, West Bengal

11/1/2009
D. Jagannathan

A Textbook for KPSC
Competitive Examinations for selection of
Headmasters of Government High Schools in Karnataka for Both
Prelims – Paper II Education
and
Mains - Education (Subject Code 8A)
Compulsory Paper IV Education (Part III) and
Optional Subject – **Education** Paper I and II
Part III – New Initiatives in Karnataka
Chapters: 2, 4, 6, 7, 8, 10, 13, 14, 15, 17, 19, 20 and
Annexures: 2, 3, 4 and 5.

The Commissioner of Public Instruction, Bangalore in his circular dated 24/4/2008 has permitted all education institutions (schools and colleges) in Karnataka to purchase this book (as it is a 'Resource Book' which deals with all aspects of 'Education') out of available/accumulated funds.

A Comprehensive Study of the Progress of
EDUCATION IN KARNATAKA

D Jagannatha Rao

RETIRED DIRECTOR, DSERT
Department of Public Instruction
KARNATAKA



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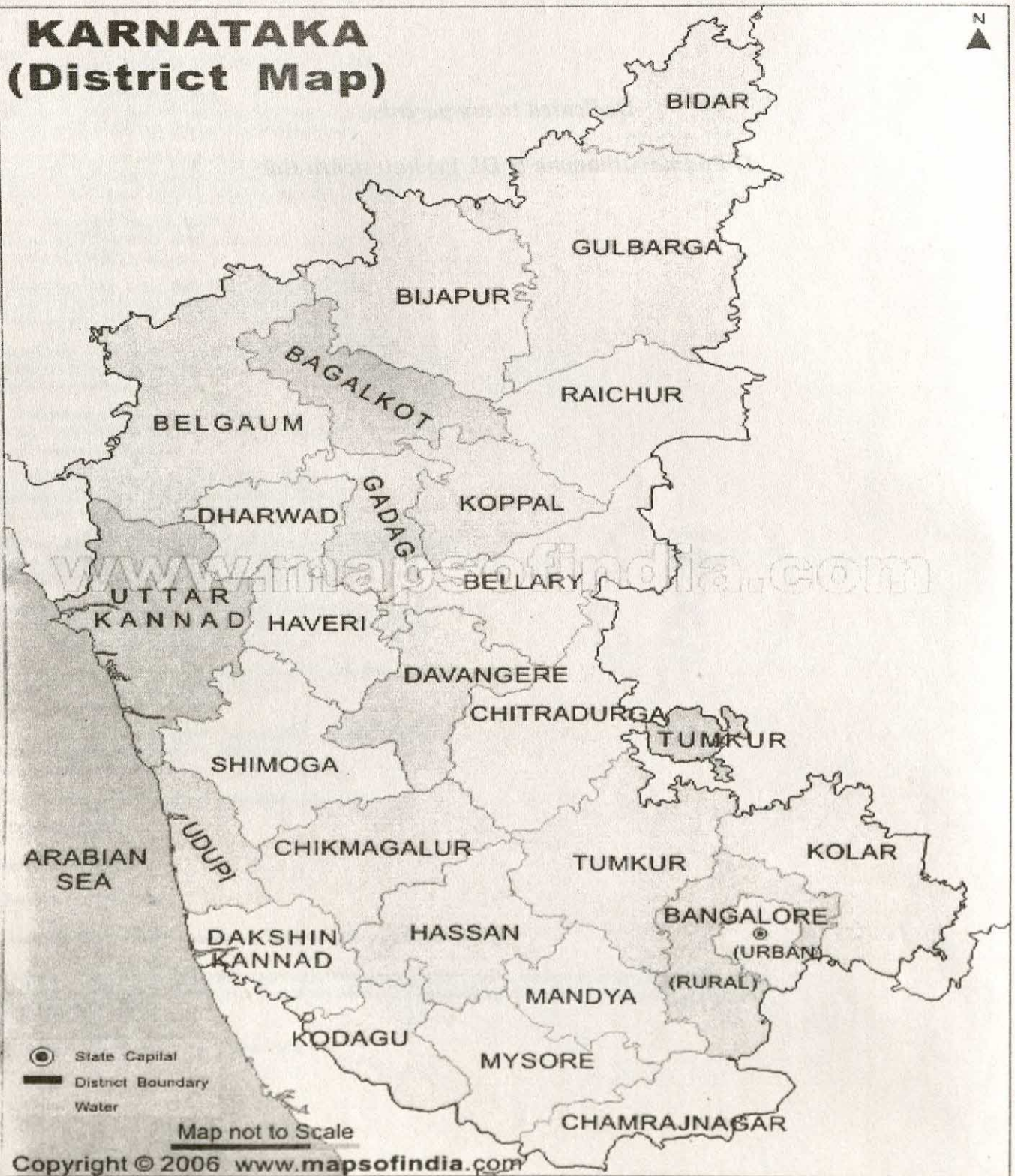
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KARNATAKA (District Map)



- State Capital
- District Boundary
- ~ Water

Map not to Scale

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Preface

Education is recognised as a fundamental human right along with other human necessities like food, shelter and water, according to the "*The Universal Declaration of Human Rights (1948)*". Human development depends on universal access to education which also implies equity and social justice. Karnataka has all along been in the fore front of providing access to education in the country and has made rapid strides in UEE. There has been a long felt need for documenting the growth of education in Karnataka. This book tries to fulfil the said need and documents the progress of education in the state over the years with both historical and academic perspectives.

The book has also been developed as a comprehensive study of the present education scenario in the state. It deals with all sectors of education – pre primary, elementary, secondary, higher secondary, collegiate and technical education. The main focus of the book is, of course, school education – elementary education and secondary education which is discussed in all its dimensions – growth in each sector, present status as per educational indicators, new initiatives, impact of government programmes, equity issues, role of private sector, financing of education, and future challenges. It also gives a birds'-eye view of all the premier institutions in the state.

I am grateful to numerous academicians, colleagues, departmental officers and friends who gave valuable inputs, comments and suggestions in the preparation of this book. I also wish to thank Smt. Shanthi Srikanth for her valuable inputs by way of copy editing this book.

It is hoped that the book will meet the long felt need of teachers, academicians, administrators and research scholars working in the field of education.

All suggestions to improve this book are most welcome.

Dt. 3rd April 2008

D JAGANNATHA RAO

Foreword

Education is recognized as the greatest human need, along with other human necessities like food, shelter and water, according to the United Nations (1946). Human development depends on universal access to education which also implies equity and social justice. Education has been in the forefront of providing access to education in the country and has been a major effort. There has been a long way to go for the country in the field of education. This book tries to fill the gap and to contribute to the progress of education in the country. The book has been written by a group of experts in the field of education.

The book has been written by a group of experts in the field of education. It deals with all sectors of education - primary, secondary, tertiary, and technical education. The main focus of the book is on the school sector, primary and secondary education which is the backbone of the education system. It also deals with the higher education sector, tertiary education, and the private sector, including education and human resources. It also gives a brief overview of the present situation in the country.

I am grateful to the members of the committee who have been instrumental in the preparation of this book. I also thank the members of the committee who have been instrumental in the preparation of this book. I also thank the members of the committee who have been instrumental in the preparation of this book.

It is hoped that the book will meet the need of teachers, students, and parents and will be a useful reference for all those working in the field of education. All suggestions for improvement of the book are welcome.

Dr. J. K. SINGH

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Abbreviations and Acronyms

ACDPO	Assistant Child Development Project Officer
ADPI	Assistant Director of Public Instruction
AEO	Assistant Education Officer
AICTE	All India Council of Technical Education
AIISH	All India Institute of Speech and Hearing, Mysore
AIR	All India Radio
APF	Azim Premji Foundation
AREF	Amylase Rich Energy Food
ASER	Annual Status of Education Report
AWC	Anganawadi Centre
AWW	Anganawadi Worker
BAS	Baseline Assessment Survey
BBMP	Bruhat Bangalore Mahanagara Palike
BCM	Backward Classes and Minorities
BEO	Block Education Officer
BGVS	Bharat Gnana Vignana Samiti
BPEd	Bachelor of Physical Education
BPL	Below Poverty Line
BRC	Block Resource Centre
BRP	Block Resource Person
CABE	Central Advisory Board of Education
CAC	Central Admission Cell
CAG	Comptroller and Auditor General
CARE	Cooperative for American Relief Everywhere
CCRT	Centre for Cultural Research and Training
CDPO	Child Development Project Officer
CEC	Continuing Education Centre

CEE – Centre for Environmental Education
CEO – Chief Executive Officer
CET – Common Entrance Test
CFO – Chief Finance Officer
CFTRI – Central Food Technological Research Institute, Mysore
CIIL – Central Institute of Indian Languages, Mysore
COO – Chief Operating Officer
CPE – Compulsory Primary Education
CPed – Certificate Course in Physical Education
CPI – Commissioner of Public Instruction
CPRI – Central Power Research Institute
CRC – Cluster Resource Centre
CRP – Cluster Resource Person
CSIR – Council for Scientific and Industrial Research
CSS – Centrally Sponsored Scheme
CTE – College for Teacher Education
DAEO – District Adult Education Officer
DDPI – Deputy Director of Public Instruction
DEO – District Educational Officer
DES – Department of Economics and Statistics
DIET – District Institute for Education and Training
DISE – District Information System for Education
DPAR – Department of Administrative Reforms, GOK
DPEP – District Primary Education Programme
DPed – Diploma in Physical Education
DPI – Director of Public Instruction
DSERT – Department of State Education Research and Training
DTB – Department/Directorate of Text Books
Dy PC – Deputy Project Coordinator
EAT – Educational Appellate Tribunal
EB – Efficiency Bar
ECCE – Early Childhood Care and Education
EDC – Educational Development Centre, Washington
EESS – Environment Education in School System
EFA – Education for All
EFC – Eleventh Finance Commission

EGS – Education Guarantee Scheme
 ELTC – English Language Teaching Centre
 EMIS – Education Management Information System
 ERB – Educational Research Bureau
 ETC – Education Technology Cell
 EVG – Educational Vocational Guidance
 EVS – Environmental Studies
 FPAI – Family Planning Association of India
 GDI – Gender Development Index
 GDP – Gross Domestic Product
 GER – Gross Enrolment Ratio
 GNP – Gross National Product
 GOI – Government of India
 GSDP – Gross State Domestic Product
 HDI – Human Development Index
 HDR – Human Development Report
 HPS – Higher Primary School (classes I – VII)
 HS – High School (classes VIII to X)
 IAS – Indian Administrative Service
 IASE – Institute for Advance Studies in Education
 ICDS – Integrated Child Development Services
 ICMR – Indian Council for Medical Research
 ICSSR – Indian Council for Social Science Research
 ICT – Information Communication Technology
 IDF – International Development Fund
 IEDC – Integrated Education for Disabled Children
 IIMB – Indian Institute of Management, Bangalore
 ISEC – Institute for Social and Economic Change
 ISKCON – International Society for Krishna Consciousness
 ISRO – Indian Space Research Organisation
 IUB – Inter University Board
 JDPI – Joint Director of Public Instruction
 JNCASR – Jawaharlal Nehru Centre for Advanced Scientific Research
 KGBV – Kasturba Gandhi Balika Vidyalaya
 KPSC – Karnataka Public Service Commission
 KSEEB – Karnataka Secondary Education Examination Board

KSOU – Karnataka State Open University
 KSQAO – Karnataka State Quality Assessment Organisation
 KSQE – Karnataka Schools Towards Quality Education
 LGS – Learning Guarantee Scheme
 LPS – Lower Primary School
 LS – Lower Secondary (Middle School Class 8)
 LT – Licentiate in Training
 MAHE – Manipal Academy of Higher Education
 MAS – Mid term Assessment Survey
 MG – Multi Grade
 MHRD – Ministry for Human Resources Development
 MIS – Management Information System
 ML – Multi Level
 MLL – Minimum Levels of Learning
 MPed – Master of Physical Education
 MRP – Master Resource Person
 MTFP – Mid Term Financial Plan
 NAAC – National Assessment and Accreditation Council
 NABARD – National Bank of Agriculture and Rural Development
 NACO – National Aids Control Organisation
 NAEP – National Adult Education Programme
 NAL – National Aerospace Laboratory
 NBA – National Board of Accreditation
 NCC – National Cadet Corps
 NCERT – National Council for Education Research and Training
 NCF – National Curriculum Framework
 NCLP – National Child Labour Project
 NDC – National Development Council
 NEK – North East Karnataka
 NER – Net Enrolment Ratio
 NFE – Non Formal Education
 NFHS – National Family Health Survey
 NGO – Non Government Organisation
 NIAS – National Institute of Advance Studies, Bangalore
 NIEPA – National Institute of Education Planning and Administration
 NIMHANS – National Institute of Mental Health and Neuro Sciences

NLM – National Literacy Mission
 NLSIU – National Law School of India University, Bangalore
 NOS – National Open School
 NPEGEL – National Programme for Education of Girls at Elementary Level
 NRI – Non Resident Indian
 NSS – National Sample Survey
 NTC – Nursery Teachers' Certificate
 NTSE – National Talent Search Examination
 NTTI – Nursery Teacher Training Institute
 NUEPA – National University of Educational Planning and Administration
 OBB – Operation Black Board
 OBC – Other Backward Classes
 PHC – Primary Health Centre
 PLC – Post Literacy Campaign
 POA – Programme of Action 1992
 PPU – Policy Planning Unit
 PSE – Pre School Education
 PTR – Pupil Teacher Ratio
 PUC – Pre University Course
 PWD – Public Works Department
 RBI – Reserve Bank of India
 RFLP – Rural Functional Literacy Programme
 RIDF – Rural Infrastructure Development Fund
 RIE – Regional Institute of Education, Mysore
 RIESI – Regional Institute of English, South India, Bangalore
 RIMSE – Ramakrishna Institute of Moral and Spiritual Education
 ROT – Receive Only Terminal
 RRI – Raman Research Institute
 SADPI – Senior Assistant Director of Public Instruction
 SBC – School Betterment Committee
 SCP – Special Component Plan
 SCVE – State Council for Vocational Education
 SDMC – School Development and Monitoring Committee
 SDP – State Domestic Product
 SDP – School Development Plan
 SEEU – State Education Evaluation Unit

SHGs – Self Help Groups
 SIE – State Institute of Education
 SIRD – State Institute of Rural Development
 SIS – State Institute of Science
 SIVE – State Institute of Vocational Education
 SLP – Special Leave Petition
 SOPT – Special Orientation Programme for Teachers
 SPD – State Project Director
 SSA – Sarva Shiksha Abhiyan
 SSLC – Secondary School Leaving Certificate
 SUPW – Socially Useful and Productive Work
 SWF – Students' Welfare Fund
 TAS – Terminal Assessment Survey
 TBF – Teachers' Benefit Fund
 TC – Transfer Certificate
 TCH – Teachers' Certificate Higher
 TCL – Teachers' Certificate Lower
 TEU – Teacher Education Unit
 TLC – Total Literacy Campaign
 TLM – Teaching Learning Material
 TP – Taluk Panchayat
 TSP – Tribal Sub Plan
 TTI – Teacher Training Institute
 TTTI – Technical Teacher Training Institute
 UC – Utilisation Certificate
 UEE – Universalisation of Elementary Education
 UGC – University Grants Commission
 UPS – Upper Primary School
 VEC – Village Education Committee
 VTU – Visveswaraiah Technological University
 WB – World Bank
 WE – Work Experience
 ZP – Zilla Parishad/Zilla Panchayat
 ZSS – Zilla Saksharata Samitis

Chapter 1

Karnataka's General Profile

Karnataka is a state with a rich cultural heritage, diverse geographic regions, cultures, faiths, languages, customs, traditions, folklores, dress, etc. In all these, it exhibits as much variety and diversity as the country itself. The state is also renowned for silk, sandalwood, gold, agarbattis, ivory carvings, inlay work, Bidriware and lacquerware.

Historical Background of the State

The earliest references to Karnataka are found in the Ramayana and the Mahabharata as well as in early Jain and Buddhist literature and Emperor Ashoka's edicts. Some of the most distinguished dynasties of South India—the Satavahanas, Chalukyas, Kadambas, Rastrakutas, Gangas, Hoysalas, Royas of Vijayanagar and Wodeyars of Mysore—have ruled the state.

For over 500 years, from 600 AD, Karnataka was a dominant empire in India. Its armies defeated several empires and kingdoms from Kanyakumari to Himalayas. The Vijayanagar empire symbolised the spirit of resistance to foreign invasions.

Some of the most important historical personalities have enriched the cultural heritage of the state – Pulikeshi II, Chalukya Vikramaditya, Krishnadevaraya. Chandragupta Maurya is believed to have spent his last years in Sravanabelagola, an important centre of Jain pilgrimage. The state is also famous for valiant personalities—Kittur Rani Chennamma, Hyder Ali and Tippu Sultan—who fought the British with an undaunted spirit.

Cultural Heritage

The state of Karnataka is significant to different people in different ways. To a housewife, it is the land of sandalwood, gold, ivory carvings and silk. To a lover of art and architecture, Karnataka means a whole lot of architectural styles found in Badami, Aihole, Pattadakal, the monolithic statue of Gomateswara, the famous sculptures of Belur, Halebidu, Somanathapur, Bijapur and Hampi.

To philosopher, Karnataka has been a melting pot synthesising the teachings of religious reformers of the Dwaita, Adwaita, Vishisthawaita, Veerashaiva and Jaina sects. The Vedanta of Sankaracharya, Madhvacharya, Ramanujacharya and the unique teachings of Basaveswara have moulded the beliefs and culture of the people of the region for centuries.

To a lover of literature, Kannada is a language with more than one thousand years of rich literary history and now, of course, with the highest number of "Jnanapeeth" laureates in the country.

Contributions to the World of Music

To lover of classical music, Karnataka is an abode of music giving equal impetus to the Hindustani as well as Carnatic classical styles. Vidyaranya, the founder of Vijayanagar empire, is also credited with the founding of the Carnatic School of Music, while Purandaradasa, who gave a new orientation to Carnatic Music, is known as the "Karnataka Sangeeta Pithamaha". Several noted musicians (Sripadaraya,

Vyasaraya, Purandara, Kanaka, Vijaya, Gopala, Jagannatha) have enriched what is popularly known as "Dasa Pantha" in Carnatic Music with their own unique contributions.

The period between the late nineteenth and twentieth centuries churned out a galaxy of musicians—Veene Sheshanna, Bidaram Krishnappa, T Chowdaiah, Mysore Vasudevacharya, to name a few. Sri Jayachamaraja Wodeyar, the last Maharaja of Mysore, was himself a noted composer of Carnatic Music.

Karnataka has gifted several well-known musicians to the realm of Hindustani music as well—Savai Gandharva, Dr Mallikarjun Mansur, Bhimsen Joshi, Dr Gangubai Hangal, Panchakshari Gawai, Basavaraj Rajguru—each one a musician of exemplary talent.

The Tourist Paradise

To an ardent tourist, Karnataka is verily a tourist paradise. There are numerous historical places, hill ranges, river valleys, waterfalls and beaches known for their natural and pristine beauty. Karnataka is known for a long coastline and silvery beaches, the highest waterfalls in India at Jog, the Kaveri falls at Shivanasamudram, the world famous Brindavan Gardens at Mysore, the World Heritage site at Hampi, the Dargahs of Muslim saints at Gulbarga, Mangalore and Bidar, the beautiful churches at Bangalore, Mysore and Mangalore, the Gomateswara at Sravanabelagola, ...the list is endless. Similarly, for the pilgrims, Karnataka is dotted with innumerable places of pilgrimage attracting all faiths.

The Making of Modern Karnataka

For a student of modern India, Karnataka has emerged as a major hub of research and higher learning. Visionaries like Sir M Visveswaraya and Sir Mirza Ismail and techies like Narayan Murthy and Azim Premji have made enormous contributions towards modernisation of the state and set up several heavy industries, the IT industry and a host of other industries.

The district of Dakshina Kannada in Karnataka alone has contributed to the establishment of five of the top commercial banks in the country. During the decade 1990 – 2001, Karnataka has witnessed the highest growth rate of GSDP as well as per capita GSDP in the country, which reflects the strong economic growth of the state.

Integration of the State

A unified Karnataka existed for almost five centuries from the time of Chalukya Pulikeshi (610–642 AD). Later Karnataka was parcelled out by various kingdoms as they rose and fell over centuries.

The erstwhile princely state of Mysore came into existence at the end of the IV Mysore War. In 1881, at the time of rendition, it consisted of only 7 districts—Bangalore, Tumkur, Kolar, Kadur, Mysore, Chitradurga and Shimoga—totally covering an area of 75,412 sq. km. The districts of Hassan and Mandya were carved out of Mysore district in 1886 and 1939 respectively. In 1953, Bellary district from Madras state was added. Incidentally the state of Andhra Pradesh was also formed at the same time.

The dream of a unified Karnataka was realised when the states were reorganised within the Republic of India on 1st November 1956. The Karnataka state was formed by the merger of Kannada speaking areas (that were part of the Bombay Presidency, the Madras Presidency and the princely states of Hyderabad and Coorg) with the then princely state of Mysore. The newly formed state was initially known as "Mysore" but subsequently renamed as "Karnataka" in 1973, thereby fulfilling the long standing demand of the people of the state.

Location and Extent

Karnataka is located in the southwest part of India on the Deccan plateau and lies between latitudes 11.3° N and 18.5° N and 74°E and 78°E. It is bounded, in clockwise direction, by the states of Goa in the northwest, Maharashtra, Andhra Pradesh, Tamil Nadu, Kerala, and on the west by the Arabian Sea with a coastline of over 400 km.

The state extends to about 750 km from north to south and about 400 km from east to west covering an area of 1.91 lakh sq. km, which is 5.83% of the total geographical area of the country. It is the eighth largest state in the country in terms of geographical size.

Natural Regions

The resources-rich Karnataka has four natural regions, each with distinctive characteristics—the coastal region (Karavali), the Western Ghats (the Malnad region) and the Maidan region (the south maidan and the north maidan). While the south maidan is drained by river Kaveri and its tributaries, the north maidan is less developed, receives less rainfall and is drained by the river Krishna, Tungabhadra and their tributaries. The state has a semi-tropical climate. In terms of the extent of arid land, Karnataka is second only to Rajasthan.

Karnataka has a varied topography—high mountains, plateaus, residual hills and coastal plains. The state is enclosed by chains of mountains to its west, east and south. The entire landscape is undulating, broken up by hills and ravines.

Among the tallest peaks of the state are “Mullayyanagiri” (1925 m), “Bababudangiri” (1894 m), the “Kuduremukh” (1895 m), all in Chikkamagalur district, and “Pushpagiri” (1908 m) in Kodagu district.

The forest cover forms 19.3% of the total area of the state. Karnataka is one of the 5 major states that share the biological wealth of the Western Ghats. Much of the dense rainforest area lies in the Malnad region. The forests consist of tropical evergreen, tropical semi evergreen and deciduous forests on the foothills, and grasslands and shrubs on the plains. Much of the dense forests lie in Malnad and are rich with teak, rosewood, bamboo and other trees.

A variety of wild life abounds in these forests. There are several game sanctuaries in the state, the most famous of them being Bandipur, Nagarhole, Dandeli and Bannerghatta National Park. The forests and river valleys of the state provide habitat to a wide range of water and garden birds. Ranganathittu, Kokkare, Bellur and Mandagadde are some of the important bird sanctuaries.

Seasons

The state of Karnataka experiences three main seasons. Summer is from March to May while winter is from December to February. There are two periods of monsoon, the South West Monsoon is from June to August and North East Monsoon is from October to December. Rainfall varies from region to region between 500 mm and 4000 mm. Agumbe in the Sahyadri mountains receives the second highest annual rainfall (7600 mm) in India.

Population

The population of the state, as per the 1991 census, was 4.5 crores (accounting for 5.31 % of the population of India). In 2001 it was 5.3 crores, which is 5.13% of the country's population. Currently, Karnataka occupies the ninth position among 28 major states and 7 union territories in the country in terms of population.*

In Karnataka, the annual growth rate declined from 2.4% during 1971–81 to 1.725% in 1991–2001. The decline in the population growth rate has been more rapid in Karnataka than anywhere else in India. While the sex ratio of 965 is above the All India average of 933, the ratio for children under 6 declined from 960 in 1991 to 946 in 2001. The population density has increased from 235 (1991) to 275 (2001) but is still lower than the All India figure of 324 (2001).

About 66 % of the population lives in rural areas while 16.2% and 6.6% of the population of the state comprises scheduled castes (SCs) and scheduled tribes (STs) respectively.

Language

Kannada, the principal language of the state, is one of the four major Dravidian languages along with Tamil, Telugu and Malayalam. Tulu and Kodagu are the other two important languages of the Dravidian family.

*Source: Census of India, Karnataka

Kannada is the mother tongue of 65.7 % of the population of the state. There are regional concentrations of several linguistic groups. Tulu and Konkani (which do not have their own scripts) are the mother tongue of 59% of the population of Dakshina Kannada and Udupi districts, while Konkani is the mother tongue of 22% of the population of Uttara Kannada. Kodava (which also does not have a script) is the mother tongue of 28 % of the population of Kodagu district.

The Telugu speaking population is concentrated in Kolar district (52%) and is also present in sizable numbers in the districts of Bangalore, Chithradurga, Tumkur and the districts of Gulburga division bordering Andhra Pradesh. Marathi is spoken in the districts bordering Maharastra namely, Belgaum (21%), Bidar (19%) and Uttara Kannada (9%). The Tamil speaking population is concentrated in Bangalore (16%), Kolar (9%) and Mysore (5%) districts. The Urdu speaking population is distributed in all the districts but it forms only 5 % of the population in Mysore division while in other divisions it ranges between 10% and 14%.

Religion

Karnataka is a land of many religions. Every religion has contributed to shaping the life, culture and activities of the people of the state. Hindus including Jains, Buddhists and Sikhs form 86 % of the population of the state while 11 % and 2% of the population are Muslims and Christians respectively.

Agriculture

Agriculture is still the mainstay of the people in the state. Cultivators and agricultural labourers form about 56% of the workforce (2001 census). The nature of crops grown and agricultural productivity depend on the extent of rainfall. Only 25% of the net area sown is irrigated. In recent years, the state has been hit by severe droughts and flash floods. The dry arid land of North Karnataka has a direct bearing on the socio-economic development of the local people and has also impacted the SDP of the state.

In the coastal areas the main occupations of the people are fishing, cultivation of paddy, coconut and areca nut. The Malnad region is known for plantations of coffee, areca nut, pepper, cardamom and rubber. In the southern maidan region, the principal crops are ragi, rice, sugarcane, coconut, and mulberry. The northern maidan with its rich black cotton soil receives less rainfall and supports jowar, oil seeds, pulses and cotton. Sugarcane is grown in irrigated areas.

A number of measures such as speeding up of irrigation works on a priority basis has increased the net irrigated area from 7.6 lakh hectares in 1957-58 to 30.61 lakh hectares in 2003-04.

Resources and Economy

Karnataka is a frontline state in terms of economic development. Before independence, the princely state of Mysore was reputed to be one of the most progressive states in the country. The state has recorded an impressive growth in GSDP in recent years, which is higher than the national average. Even in terms of Human Development Indices, the state is slightly above the national average.

The state is rich in mineral resources distributed more or less evenly over its territory – iron, copper, manganese, chromite, bauxite, limestone and granite of ornamental quality. It is the only state in the country having gold deposits. There are vast deposits of iron in different parts of the state. The iron ores of Bellary–Hospet region are considered to be one of the world's best. The state has one of the oldest Geological Survey Departments in the country, started as far back as in 1880. Karnataka accounts for about 6% of the country's surface water and 4.4% of ground water resources.

The state has very well connected road and railway networks. There are 1.67 lakh km of motorable roads and 3,172 km of railway network. The important seaports are at Mangalore and Karwar. One of Asia's biggest naval bases is located at Karwar (INS Kadamba). The state has an international airport at Bangalore. Airports are also located at Mangalore, Belgaum and Hubli. The capital of the state is Bangalore (now renamed as Bengaluru) which is also the software capital of India.

Power Generation

The country's first hydro electric station was set up at Shivanasamudra in 1899. The 78 KV electricity transmission line of 147 km from Shivanasamudra to Kolar Gold Fields was the longest transmission line in the world at that time. Subsequently, the power generated here was supplied to Bangalore and Mysore cities by using alternate current for the first time in the country. Karnataka was also the first state in the country to electrify all its villages.

The installed power generation capacity in the state has expanded phenomenally from 746 MW in 1970 to 4,995 MW in 2006 and is spread across hydel, thermal and wind energy sources.

The resources potential of Karnataka includes:

1. A strong and vibrant industrial base
2. Superior human resource in the form of trained technical manpower in engineering, technology, software and services sectors
3. Favourable climate
4. Political stability
5. Good industrial relations
6. Well connected road, rail and air links
7. Excellent telecommunication networks
8. High level research and development facilities offered in premier research institutions of national and international repute.

Banking

The first branches of banks in the state were opened at Dharwar in 1863 by the Bank of Bombay and in 1864 in Bangalore Cantonment by the Bank of Madras.

Dakshina Kannada district has the unique distinction of being a cradle for the banking industry with the starting of 5 of the biggest commercial banks in the country – The Canara Bank (1906), The Corporation Bank (1906), The Syndicate Bank (1925), The Vijaya Bank (1930), and The Karnataka Bank (1930).

Besides these banks, the State Bank of Mysore was established in 1913 and the Vysya Bank in 1930. At present, Karnataka has one of the most widespread network of branches in the country. The state also stands fourth in the country in terms of the ratio of bank branches per lakh population.

Industries

Karnataka has been a pioneer in industrial development and now stands sixth among the states in terms of output. It has a strong and vibrant industrial base built over the years with a wide network of large, medium and small scale industries both in the public and private sectors.

The state has a long history of industrial activity for more than a century. The first sugar mill was set up in Mysore in 1800. The Kolar Gold Fields came into existence in 1880. By 1900 there were a number of large textile companies in the state. The state government also took several important measures to foster an industrial climate by setting up the Department of Industries and Commerce in 1913, the Mysore Bank in 1913 and the Chamber of Commerce in 1915.

Several heavy industries were set up over the years which contributed to the rapid growth of other ancillary industries in the state. Hindustan Aeronautics (HAL), Bharat Electronics (BEL), Hindustan Machine Tools (HMT), Indian Telephone Industries (ITI), Bharat Earth Movers Ltd (BEML), the Bharat Heavy Electricals, the Railway Wheel and Axle Plant, the Indian Aluminium Company, the Jindal Vijayanagar Steel Co, the Kuduremukh Iron Ore Co, the atomic energy plant at Kaiga, the thermal plants at Raichur, Mangalore and Bellary, several mega hydroelectric projects, the Mangalore Petroleum Refinery, a good number of steel and cement companies, ... the list is almost endless.

These industries have been a catalyst for creating industrial infrastructure and employment opportunities, leading to the setting up of thousands of ancillary units and support facilities in the state.

The annual average growth of industrial production was 6.63% in 2003–04. The state accounts for around 20% of the country's turnover in the Electronics and Communication Equipment Sector and generates about Rs 2000 crores in the automobile segment.

According to the Economic Census 1998, there were 19.12 lakh enterprises including 8000 large and medium industries in the state engaged in economic activities other than crop production. The state accounted for 8% of all India enterprises and 8.15% of working people in employment.

The state witnessed the highest economic growth rate in terms of both GSDP and per capita GSDP during the period 1990–2001. The per capita income (NSDP) at constant prices increased from Rs. 6,739 in 1990–91 to Rs. 11,516 in 2000–01 showing an annual increase of 7.1 %. The economy was predominantly agrarian in character contributing to 60% of state's GDP in 1960–61. It has steadily declined to 43% in 1981 and to 26% in 2001–02. Karnataka's GDP, however, grew by 8.7% during 2005–06.

Information and Communication Technology

Karnataka's biggest success story is, of course, the information technology and bio-technology sectors. The state occupies a pride of place in information and communication technology, and currently accounts for 34% (2006–07) of India's total software exports (worth about Rs 50,000 crores). The annual growth rate in IT exports is close to 30%. Infosys and Wipro are two of the software giants and industry leaders from the state who have made it big on the international scene.

About 78% of global chip designing is also undertaken in Bangalore. The Tier II cities—Hubli–Dharwar, Mysore, Mangalore, Manipal, Gulbarga—are some of the other important software centres. The state is home to more than 4 lakh IT professionals.

Biotechnology

The state is the fastest growing bio cluster in Asia. Around 60% of the country's biotech firms—182 BT companies out of 306 - are located in the state. BT exports from the state were worth \$780 million in 2006–07. "Biocon" is an acclaimed industry leader in the BT category.

Administrative Divisions and Districts

After integration, the state initially had 19 districts and 174 revenue taluks. More districts were gradually carved out of bigger districts for administrative convenience. Bangalore Urban district was formed in 1986. Seven additional districts—Udupi, Chamarajanagar, Koppal, Bagalkote, Gadag, Haveri and Davanagere were created in 1997–98. In 2007, Ramanagara was carved out of Bangalore district and Chikkaballapur out of Kolar district. Now the state comprises 29 revenue districts grouped under 4 revenue divisions with headquarters at Bangalore, Belgaum, Gulbarga and Mysore.

Table 1.1

Administrative Divisions and Districts

<i>Division</i>	<i>Districts</i>
Bangalore	Bangalore, Bangalore (Rural), Chitradurga, Davanagere, Kolar, Shimoga, Tumkur, Ramanagara, Chikkaballapur
Belgaum	Belgaum, Bijapur, Bagalkot, Dharwad, Gadag, Haveri, Uttara Kannada
Gulbarga	Bidar, Gulbarga, Raichur, Koppal, Bellary
Mysore	Chikkamagalur, Dakshina Kannada, Udipi, Hassan, Kodagu, Mandya, Mysore and Chamarajanagar

For administrative purposes the state has 4 revenue divisions, 49 revenue subdivisions, 177 revenue taluks and 745 hoblis (revenue circles).

Education Districts and Blocks

The following bigger revenue districts have been further divided into 2 education districts, to facilitate convenience in administration of education:

1. Bangalore Urban district – Bangalore North and Bangalore South districts
2. Gulbarga district – Gulbarga and Yadgir
3. Tumkur district – Tumkur and Madhugiri
4. Belgaum district – Belgaum and Chikkodi

Thus there are 33 education districts and 202 education blocks.

Education and Literacy

From the middle of the nineteenth century, the princely state of Mysore has been considered a progressive state in the country. A modern system of education had been put in place in Mysore as early as in 1833 while the first girls' school was established in Bangalore in 1840. The princely state of Mysore was the second state in the country, next only to Baroda, to introduce compulsory primary education in 1913. The state also has the distinction of establishing the country's first private engineering college.

At the time of independence, literacy among the people of princely Mysore was 20.3% as against the country average of 16.6%.

Achievements in education have been quite remarkable and the state is moving towards universal literacy at a steady pace. The literacy rate increased by 10 percentage points, from 56.04% in 1991 to 66.64% in 2001 and it has been consistently higher than the all-India rates in all the census years. The gender disparity has declined steadily over the years from 0.47 in 1961 to 0.19 in 2001 indicating significant progress in the reduction of female illiteracy.

The state has one of the most extensive networks of primary and secondary schools in the country. Coverage in terms of access is 98.98% in respect of lower primary schools (LPS) and 99.19% in respect of higher primary schools (HPS). 54% of the states' teachers are women. As many as 1718 government high schools have computer aided learning centres.

Establishment of Universities

The University of Mysore, one of the oldest universities in the country, was established in 1916 while Karnatak University, the second oldest university in the state, was established in 1950. The Bangalore High School started in 1858, later became a first grade college and was in 1875 designated as Central College, which, became the nucleus of the Bangalore University, established in 1964.

The state now has a number of universities which are centres of higher learning—Mysore, Bangalore, Mangalore, Gulbarga, Karnatak, Kuvempu, Kannada and Tumkur, besides Karnataka Open University, Rajiv Gandhi University of Health Sciences, and Visveswaraya Technological University. A women's university has been established in Bijapur recently. The Indira Gandhi National Open University has a study centre in Bangalore.

Premier Institutions for Higher learning and Research

The state has many centres for higher learning and research—Bangalore, Mysore, Dharwar, Mangalore, Manipal, Belagaum and Gulbarga. Additionally, premier institutions like Indian Institute of Science established in 1911, have acquired the status of deemed universities.

There are a host of nationally and internationally reputed institutions working in diverse fields from education, food and agriculture to health and neuro-sciences to science and technology. A bird's eye view of these centres for higher learning and research in the state has been given in Annexure I.

A number of defence research organisations are situated in Karnataka under the umbrella of Defence Research Development Organisation, Bangalore.

Health

Basic health care was one of the priorities even in the princely Mysore state. It was the first state in the country to take up vaccination against small pox in 1806. A government hospital was set up in Bangalore in 1846 and the first public health unit was opened in Mandya in 1929. The state established public health centres as central units of basic health care and undertook extensive measures before independence to control communicable diseases like malaria. The first two birth control clinics in the world were set up in 1930 at the Victoria and Vani Vilas Hospitals in Bangalore and K R Hospital in Mysore.

The health status of the people has improved considerably over the last several decades. The four health indicators that reflect the provision of basic health services to the people are the sex ratio, the infant mortality rate, the maternal mortality rate and life expectancy at birth. In 1960 the life expectancy at birth was 40 years, which rose to 66 years in 2001. Infant mortality rate (52/1000) and maternal mortality (neo natal) rate (37.1/) are better than the all India figures (60 and 43.4 respectively).

The state has 8143 sub centres, 1696 primary health centres, 581 primary health units, 430 government hospitals and 2965 medical institutions (with a total bed strength of 48,500). It ranks third in health expenditure, the per capita expenditure being Rs 238.38. There is one doctor for every 3,240 people.

Small pox, plague and guinea worm have been eradicated and the incidence of polio has been considerably reduced. The health care delivery system in Karnataka, structured mainly on the basis of national norms, aims at integrating the promotive, preventive and curative aspects of health care in the state.

The health sector also faces considerable challenges. There are rural-urban disparities. The health indicators in the districts of the North East Karnataka (NEK) region are lower than the rest of the state. The health status of SCs/ STs is also a cause for concern. The incidence of communicable diseases such as T B, malaria and intestinal infections is still relatively high. HIV/ AIDS, diabetes, heart disease and cancer are on the increase. Private sector participation is still restricted to urban areas.

Karnataka Telemedicine Project

Karnataka's telemedicine project is a joint venture of ISRO and Government of Karnataka (GOK). It aims at linking all district hospitals and taluk hospitals with super speciality hospitals to provide expert medical services via INSAT satellites, thus providing patients in rural and remote areas access to specialist doctors for consultation and referral services.

Bangalore (Bengaluru)

Bangalore, the capital of the state of Karnataka, developed (after Tippu's fall) mainly as a cantonment town in the nineteenth and early part of twentieth centuries. As a cosmopolitan city, it has a variety of architectural styles from the Dravidian to the modern, from neo-classical to neo-gothic. It is dotted with European-Classical public buildings, shopping malls, military barracks, churches and colonial bungalows. The stately Vidhana Soudha coexists with the classical High Court building built in the colonial era. The latter half of the twentieth century has seen several elegant glass-fronted modern buildings come up.

The salubrious climate and geographical location in the hinterland earned Bangalore many sobriquet—a pensioners' paradise, the air conditioned city, the garden city, etc. Jawaharlal Nehru described it as "India's City of the Future".

Bangalore was the first city in the country to be electrified in 1905. In the middle of the twentieth century, a number of central government industrial undertakings and defence establishments came up giving impetus to the city's rapid expansion and growth.

Bangalore attracts a large number of students both from within the country and outside as it is a prominent centre for higher learning and research. This has been a boon to the state's industrial sector, providing a continuous pool of talent. With the establishment of a number of super speciality hospitals in recent years, Bangalore has also become a centre for health tourism.

During the last decade, information technology companies from around the globe have preferred Bangalore as headquarters for their national and international operations. Hence, it is aptly called "the Silicon Valley of India". It also has the distinction of attracting the largest skilled workforce from all parts of the country. The expression "to be Bangalored" (meaning outsourced) has become a jargon in the US economy.

One of the fastest growing cities in Asia, Bangalore's population is close to 7.5 million and is expected to touch 12.5 million in the next 30 years. The (BBMP) City Municipal Corporation's administrative jurisdiction extends to an area of 728 sq. kms.

Some of the serious concerns of the city are infrastructure bottlenecks, air and water pollution, traffic jams, inefficient public transport system, shortage of dwelling space and spiralling real estate prices. This has led to a fall in the quality of the life of people.

Mysore

The royal city of Mysore was the former capital of the state. It still retains its grandeur with innumerable majestic palaces, beautiful gardens, spacious boulevards, stately buildings and well planned market-places. The famous Chamundi Hills, which is mythologically connected with the name of the city, forms a scenic backdrop to the city.

Mysore city is also known as the Garden City and the City of Palaces. The world famous Brindavan Gardens is located just 19 km from here. The University of Mysore (the sixth oldest university in the country) is located here with its beautiful and sprawling postgraduate campus ("Manasa Gangothri"). This campus has inspired the development of several university campuses in the country.

Mysore city is also home to several reputed premier institutions. The city has now become the second home for the IT businesses and services companies.

Human Development in Karnataka

A long and healthy life, access to knowledge and skills, and control over resources which in turn assures a decent livelihood are necessary for improving the quality of human life. Earlier, till the sixties, the economic attainment of a state or a country was measured on the basis of the per capita income. However, it has since been realised that the economic growth may not reach all sections of the population, and hence, the need for sustainable development.

The Human Development Index (HDI) of the UNDP (first propounded in 1990) is now accepted as the best available index for measuring development. It takes into account not just income but also 2 other crucial dimensions of development—education and health.

The HDI is a composite index covering longevity measured by life expectancy at age 1 and infant mortality rate, educational attainment computed as a combination of overall literacy and intensity of formal education based on current school enrolment of children in the age group of 6 to 18 years, and the standard of living measured by per capita real consumption expenditure.

Karnataka is the only state in the country to have brought out 2 human development reports, one in 1999 and another in 2005, with a thematic focus. At present it occupies the seventh place in human development (behind 1. Kerala, 2. Maharashtra, 3. Tamil Nadu, 4. Punjab, 5. Gujarat, 6. Haryana) (Annexure Table G T 1). Similarly, it occupies the fifth place in the Education Index (behind 1. Kerala, 2. Maharashtra, 3. Tamil Nadu, 4. Gujarat) (Annexure Table G T 2).

The level of human development is much higher in Karnataka (0.650) than in India (0.621). It registered a 20% increase from 0.541 in 1991 to 0.650 in 2001. This was possible due to increase in 3 indices: 39% in income index, 18% in the education index and 10% in the health index.

The status of human development in the districts was first scientifically assessed by the HDR 1999 and reviewed in the HDR 2005. It was found that there is a strong correlation between the economic status and HDI even at the district level in a majority of the districts.

Regional Disparities

At the time of reorganisation of the state in 1956, the different regions which were merged were strikingly at different levels of economic, social and educational development. They also had diverse political and administrative systems and structures. There were serious regional disparities in the levels of human and education development of the people.

The region consisting of Gulbarga division comprising the districts of Gulbarga, Bellary, Bidar, Raichur and Koppal, along with Chamarajanagar district of Mysore division is the most backward region in terms of all demographic, social and educational indicators. But, there are some pockets of backwardness in other districts as well. The disparities in the flow of funds to districts, which had origins in the pre-integration days, continued well after the integration, resulting in a skewed development between regions.

Dr Nanjudappa's committee which dealt with the issue of regional disparities in the state has identified backwardness on the basis of 35 indicators encompassing agriculture, industry, education, social and economic infrastructure and population characteristics. It identified 39 taluks as most backward, 40 as more backward and 35 as backward (a total of 114 taluks out of 175 taluks). To reduce the backwardness in these taluks, the committee recommended the implementation of a special development plan (SDP).

The high levels of regional, caste and gender disparities imply that not all children have equal access to education in the state. This hindered the economic growth and human development which, in turn, slowed down the rapid progress that the state could have made otherwise.

There are wide disparities in the levels of human development among districts. The district HDI in 2001 was found to range from 0.753 in Bangalore Urban district to 0.547 in Raichur district. Only 7 districts — Bangalore Rural, Bangalore Urban, Dakshina Kannada, Kodagu, Uttara Kannada, Shimoga and Udipi had HDI values higher than the state average in 2001. It is significant to note that all these districts except Uttara Kannada are in southern Karnataka.

The district wise education index reflects serious imbalances in educational attainments across districts. There is also a significant correlation between poverty, backwardness, gender disparity and education disparity within and across districts. The gender disparity index is another important indicator which shows wide disparities among districts and has a direct bearing on female health and poverty. However, gender disparity in literacy in the state is declining rapidly.

Table 1.2 gives us an idea of the situation prevailing in the least developed districts in the state in terms of health, education, income and human development indices. The bottom 5 districts have been compared with the figures for Karnataka and also with that of Bangalore Urban district which occupies the top spot in the district HDI rankings.

Table 1.2

Human Development in Backward Districts

District	Health Index	Education Index	Income Index	HDI	Rank
Bijapur	0.627	0.642	0.499	0.589	23
Koppal	0.642	0.576	0.529	0.582	24
Chamarajanagar	0.642	0.570	0.518	0.576	25
Gulbarga	0.632	0.572	0.490	0.564	26
Raichur	0.648	0.524	0.469	0.547	27
Karnataka	0.680	0.712	0.559	0.650	—
Bangalore Urban	0.705	0.887	0.666	0.753	1

Source: HDR 2005

The difference between the districts with the highest (Bangalore Urban) and the lowest (Raichur) HDI is 37.6%. Bangalore Urban district, the top ranked district in the state, has a higher HDI than Kerala (0.746) and Maharashtra (0.706) and occupies 83rd rank at the international level on par with Philippines and above China, whereas the lowest ranked district in the state, Raichur occupies 133rd place below Ghana and Cambodia. Interestingly the HDI of Raichur is higher than that of the bottom ranked states in the country—Bihar (0.495) and Uttar Pradesh (0.535).

Since the SC/ST populations generally tend to have lower literacy rates than other communities, the districts having higher SC/ST populations have lower literacy rates and consequently lower education index. These districts are also classified as educationally backward districts.

The state set up an exclusive education directorate at Gulbarga and called it the Directorate for North Eastern Karnataka in 2001. The Directorate had jurisdiction over all the districts of Gulbarga division as well as Bijapur and Bagalkote districts of Belagum division.

The office of the Directorate has since been upgraded in 2004 and an Additional Commissioner of Public Instruction has been posted. The jurisdiction of the Commisionarate has now been confined to the districts of Gulbarga division only as another additional Commisionarate was established for Belagum division with its headquarters at Dharwar. This has greatly helped decentralisation of administration of education.

Devolution of Powers to Elected Bodies

The princely State of Mysore was regarded as a model state due to the advancement made both in political and social spheres. The credit for this goes to the benevolent Maharajas and far-sighted Dewans like C Rangacharalu, K Seshadri Iyer, Sir M Visvewaraiah, Sir Mirza Ismail and others. The state made rapid progress in devolving powers to the people.

The representative assembly of Mysore, called the "Praja Pratinidhi Sabhe" came into existence in 1887 when even the British-ruled presidencies did not have such bodies. This house was converted into Karnataka Legislative Council after independence and it is the first such house in the country to complete 100 years.

The Mysore Local Boards Act of 1902 provided for a three-tier local self-government structure consisting of a village panchayat, a taluk board and a district board. Other Acts in 1918, 1926, and 1959 sought to make local governance more representative.

Again, Karnataka was the first state in the country to devolve power to local bodies through a legislation in 1983. The 1983 Act established a radically new Panchayat Raj system in the state that consisted of Mandal Panchayats, Taluk Panchayat Samitis and Zilla Parishads. There was substantial reservation for women and backward classes.

The 73rd amendment to the constitution gave constitutional guarantee to these Panchayat Raj bodies, reservation for the weaker sections and financial devolution on a scientific basis. Following this, Karnataka passed the new Panchayat Raj Act in 1993.

Evaluating the Panchayat Raj system in the country, the National Eleventh Finance Commission ranks Karnataka among the top states in the country.

Zilla Panchayats and Other Elected Bodies

Karnataka is ahead of many states in terms of the powers and functions that have been delegated to the Panchayat Raj institutions. This has helped manage delivery systems efficiently, ensure transparency and accountability, and has taken decision making to the grassroots level.

The Karnataka Panchayat Act 1993 was a comprehensive enactment which established a three-tier Panchayat Raj system in the state with elected bodies at the Village, Taluk and District levels. It ensures greater participation of the people and effective implementation of rural development programmes. There are at present 27 Zilla Panchayats (ZPs), 175 Taluk Panchayats (TPs) and 5,652 Gram Panchayats (GPs) in the state. The ZPs at the district level, TPs at the block level, and GPs at the village level look after the functioning and supervision of the administrative machinery as well as the educational system.

The Deputy Director of Public Instruction (DDPI) of the district reports to the Chief Executive Officer of the ZP. Matters relating to education are considered by the Standing Committee on Education & Health, which comprises a select number of ZP members.

At the taluk level the Block Education Officer (BEO) reports to the TP Samithi, which is the statutory elected body that also oversees the educational administration in that taluk. At the base of the structure are the GPs, one GP being constituted for a population of 5000-6000.

At the school level, each school has a School Development and Monitoring Committee (SDMC) which looks after the affairs of the school. The SDMC has replaced the Village Education Committee (VEC) in 2001.

This, in brief, is the general profile of the state of Karnataka.

Chapter 2

Educational Profile of the State

The mission statement of the education department proclaims thus – *“To enable all children of the state to be good human beings, productive and socially responsible citizens and to achieve excellence”*.

The Karnataka HDR 1999 states: “Education is the basis of all growth. The quality of human capital in the state, that is the physical and mental capabilities of the population, will determine its future progress. Education not only improves the faculties and skills of people, it also dramatically contributes to their physical well-being....”

Besides, education directly influences the quality of labour, which is a national asset. It thus becomes a means to improve the earning capacity of the people which in turn influences the economic growth of the state. In this context, Karnataka recognised education as a priority sector for promoting and sustaining social and economic progress of the state.

The state has been a pioneer in implementing several positive initiatives in the field of education and has many notable achievements and innovations to its credit. In spite of this, ironically, it continues to remain at median-level when compared with the rest of the country.

Literacy

The positive association of literacy with improved socio economic indicators underlines its importance in human development. Karnataka’s literacy rate has been consistently higher than the all-India literacy rates in all the census years. It has increased steadily since 1961 from 29.80% to 56.04% in 1990–91 and to 66.64% in 2000 – 01.

Even though the state is moving towards universal literacy at a steady pace, one-third of its population is still illiterate. More than 63% of SCs and 58% of STs are illiterate. Female literacy (56.90) continues to be far lower than the male literacy rate (76.10).

Karnataka needs to catch up with its neighbouring states in achieving impressive literacy levels such as those recorded in Kerala (90.9%), Tamil Nadu (73.5%) and Maharashtra (76.9%).

School Education in Karnataka – An Overview

School education in Karnataka comprises an elementary cycle of 7 years (5 years of lower primary and 2 years of upper primary) and a secondary cycle of 3 years. Even though an attempt has been made to include VIII Standard as a part of the elementary cycle, only about 5000 (out of 27,849) higher primary schools have VIII Standard, whereas every high school has VIII Standard. The higher secondary stage (also called the pre university stage) is of 2 years duration and is treated as an independent stage in Karnataka. After 12 years of education, the students have the option of taking up employment or joining professional courses or pursuing university education.

The Department of Education at the government level deals with all aspects of education in the state. The Commissioner of Public Instruction handles elementary and secondary education, the Commissioner of Pre University Education is responsible for the plus 2 stage and the universities are in charge of higher education.

Goals and Objectives: Elementary Education

The Government of Karnataka articulated the vision statement with regard to elementary education in 2002 in MTFP as —

“to ensure that all children of Karnataka between six and fourteen years of age complete at least eight years of quality, relevant, free and compulsory education by 2007.”

Considerable progress has been achieved in implementation of this vision, but several areas of concern remain, as there are still a significant number of hard-to-reach and out-of-school children, high dropouts at the upper primary level, and concerns in attainment of quality among all students.

Hence the state has further revised the elementary education objectives as follows:

- Every child in the age group of 6-14 years is enrolled in school and attends regularly.
- Every child is retained in the school from I Standard to VIII Standard and successfully completes the elementary stage of schooling.
- Every child attains minimum levels of learning (MLLs).
- Every teacher is punctual to school.
- The community is actively involved in the betterment of schools, thereby supporting a mass campaign for primary education.

Out-of-school children in the age group of 6-14 are encouraged to attend alternative schools (Chinnara Angala and bridge course programmes) and get mainstreamed in regular schools.

Goals and Objectives: Secondary Education

The state's vision statement relating to secondary education (as stated in the proposal for universalisation of secondary education) states that it will —

“ensure that all the children of the state in the age group of 6 to 16 years complete 10 years of free and quality education by 2015 and are also equipped with specified knowledge, skills and values to enable them to become good human beings and productive and socially responsible citizens and to achieve excellence in whatever they do”.

The state is yet to implement the programme of universalisation of secondary education.

Access

The state has one of the most extensive networks of primary and secondary schools in the country. In terms of primary educational facilities, access has been provided to even small habitations (with a population of 200 against a national norm of 300). The following table gives a bird's-eye view of the school education scenario in the state:

Table 2.1
Status of School Education in Karnataka 2006

Schools	Govt.	Aided	Unaided	Others	Total
Lower Primary Schools (1-5)	24,547	326	3,243	383	28,499
Higher Primary Schools (1-7)	19,807	2,173	5,468	401	27,849
Primary Schools (Total)	44,354	2,499	8,711	784	56,348
High Schools (8-10)	3,452	2,633	4,133	319	10,537
Total	47,806	5,132	12,844	1,103	66,885

Source: EMIS 2006-07

Note: Others include schools run by Dept. of Social Welfare and local bodies

The above table reveals that out of every 10 schools, 7 are government schools. At the lower primary stage, 86.13 % schools are government schools. There are 2 lower primary schools (one attached to the HPS) for every higher primary school and there is one high school for every 2.6 higher primary schools.

The number of habitations with primary schools within walking distance of one km has increased from 84% in 1993 to 98.98% in 2006. In respect of upper primary classes (within 3 km of the habitation) the coverage is as high as 99.19%.

There are 5 secondary schools for every 100 sq. km. and 19 secondary schools for every one lakh population. In terms of quality, government schools have well qualified and trained teachers selected basically on merit, but in terms of motivation and outcome private schools tend to do better.

Participation of Private Sector in Education

The private sector (which includes aided and unaided institutions) has a significant presence in the education scenario of the state. While a mere 12.5 % of schools providing elementary education are in the private sector, this percentage significantly increases as we move to the secondary education (67%) stage. The enrolment in private institutions is 33% at the elementary stage and 55% at the secondary stage. Yet, private schooling is largely an urban and at the most a semi urban phenomenon.

Enrolment

There are over 10 million students studying in I to X standards in schools in the state. As at 2006, all children in the 6+ age group are enrolled in schools. Gender parity exists at the elementary level, while at the secondary level, the difference in boys and girls enrolment is still a sizeable 5.5%. Even though access and enrolment are no longer a cause for worry, other issues which need attention relate to mainstreaming hard-to- reach children, dropouts, children of deprived classes and minorities.

Table 2.2
Enrolment in Schools (2006)

Stage	Classes	Boys*	Girls*	Total*
Lower Primary	1-5	29.55	27.70	57.25
Higher Primary	1-7	40.46	37.80	78.26
High School	8-10	12.71	11.40	24.11
Total	1-10	53.17	49.20	102.37

Source: Annual Report 2006 – 07

*Enrolment figures are in lakhs

Achievement of the goals of access and enrolment at the elementary level has increased the demand for secondary education. This has put tremendous pressure on infrastructure and all other facilities needed at the secondary level. The state is also on the threshold of implementing the programme of universalisation of secondary education.

Gross Enrolment Ratio (GER) and Net Enrolment Ratio (NER)

Enrolment in primary education has grown steadily: 1% for boys and 2% for girls per annum from 1990-91 to 2005-06. The GER and NER capture the multiple dimensions of schooling. The states' GER has consistently crossed the 100% mark for the last few years. The NER was 98.43 for I to V Standards and 98.47 for I to VIII Standards in 2005-06. The high GER and NER indicate that the first 2 objectives of

universal access and enrolment have largely been achieved. Meanwhile, the state is making efforts to achieve the remaining 2 objectives, i.e., retention and achievement, which are rather challenging.

Incentives

Karnataka has a number of schemes directed towards ensuring universal enrolment and retention—free textbooks, free uniforms, midday meal scheme, free school bags for SC/ST girls, student scholarships, free hostel facilities for children of SC/ST and backward classes, provision of bicycle facilities to rural girls, etc. The state has also initiated many schemes to bring children back to school, e.g., the hot cooked midday meal scheme (in 2007) covering all government and aided primary and secondary schools in the state.

The Dropout Rates

The dropout rate is an indicator of the efficiency of the school system in the state, since it presents an overview of wastage of human resources. There are various factors affecting dropout and retention at the school level.

The dropout rate has shown a steady declining trend from 31% (I to IV Standards) in 1993–94 to 7.89% (I to V Standards) in 2005–06. The CAG report for 2006 has pointed out that 'though the school dropout at the primary level is 7.89%, the dropout at the higher primary level is still high at 24.68% and this trend over the years indicates that the universal goal of achieving zero dropout stage cannot be achieved even by 2010'.

However, the departmental reports give an altogether different picture. The dropout rates according to the annual report for 2006–07 are:

Table 2.3
Dropout Rates

<i>Classes</i>	<i>Boys</i>	<i>Girls</i>	<i>Total</i>
1 to 5	10.25	9.47	9.87
1 to 7	14.14	14.36	14.25
1 to 10			44.20

Source: Annual Report 2006–07

Dropout is still a serious issue at the secondary level. For I to VIII Standards the dropout rate declined from 54–59% in 1992 to 44.20% in 2005–06 which is also relatively high.

This means that only 55 % of the children in the corresponding age group participate in secondary education. The reason for this is low transition from the elementary cycle to the secondary cycle.

Retention and Completion

According to HDR 2005, the mean years of schooling have improved only marginally over a 4 year period, from 3.97 in 1999–2000 to 4.25 in 2003–04. The high dropout rate at higher primary level shows that the state has a long way to go before it can achieve the goal of universal retention. If the UEE or goals under SSA are to be achieved, then all children must have 8 mean years of schooling.

As per 2006 and 2007 children census, the number of out-of-school children in the 6–14 age group was 75,825 and 80,863 respectively. Transition from VII Standard to VIII Standard is another area of concern as all higher primary schools do not have VIII Standard. Some of the higher primary schools (around 5000)

have been upgraded by adding VIII Standard. Community involvement has been ensured through the formation of SDMCs.

Primary School Teachers

Ensuring adequate number of trained teachers obviously improves the quality of classroom transaction in schools. In 2006–07, there were 2,53,576 primary school teachers out of which 1,71,443 were in government schools, 16,031 were in aided schools, 62,138 were in unaided schools, and 3,934 teachers were working in schools run by other agencies. Karnataka has taken steps to recruit women teachers to the extent of 54% in the elementary education sector. Kodagu district has the highest percentage of women teachers (79.2%), whereas Bijapur district has the lowest (38%).

Pupil Teacher Ratio (PTR)

Pupil Teacher Ratio (PTR) is also an important indicator which reflects the quality of classroom transaction. Even though the PTR is 31 at the state level, there are disparities between districts and within districts. A high PTR is correlated with low enrolment and high dropout rate. The Learning Guarantee Scheme (LGS) of Azim Premji Foundation (APF) found that all the higher performing schools in North Karnataka had a PTR less than 30 which was lower than the local average of 43.

Multi Grade Schools

A majority of schools in Karnataka are multi grade schools. On an average 3% of schools go without teachers due to various reasons like death, retirement, transfers, long leave and resignation in the middle of the year. These vacancies take at least a year to get filled up. Another 19% schools function with single teachers due to their small size. These schools become no-teacher schools when these teachers go on leave. Temporary arrangements made by local authorities are seldom effective.

Secondary School Teachers (2006–07)

There are 32,859 (33.43%) teachers in government schools, 25,148 (27.24%) teachers in aided schools and 36,280 (39.31%) in unaided schools. All are trained with a minimum qualification of B A/B Sc and B Ed. The total teacher strength in all secondary schools is 94,287. A little over 30% of government secondary school teachers are women.

Towards Achievement of Quality

The state has identified quality education as a critical sector in human development and has started providing greater focus and attention. Achievement of essential levels of learning is the most difficult objective of the UEE. At the same time, maintaining uniform instructional quality across the state is a challenging task.

The learning competencies have been well defined and listed in Language, Environmental Studies (EVS) and Mathematics in standards I to IV and the students are evaluated in terms of these competencies through continuous and comprehensive evaluation. In higher classes the students are evaluated in terms of learning outcomes.

Karnataka has implemented a number of programmes for improvement of quality. “Keli Kali”—the radio programme which is beamed every day from 10 stations of AIR across the state, Edusat—the broadcast of video lessons on hard spots in all the subjects to schools in Chamarajanagar and Gulbarga districts, the English Language Training program taken up in collaboration with Regional Institute of English, various teacher training programmes in content, pedagogy, and joyful learning techniques, teacher training in multi grade and activity based teaching methodology, continuous and comprehensive

evaluation in I to IV Standards, introduction of trimester scheme for Standards V to IX, are all steps taken by the state to improve quality of classroom transaction.

The state is trying to provide greater investment in educational infrastructure, reduce the class size, provide computer education, maintain a healthy pupil-teacher ratio, facilitate qualitative training of teachers, improve the quality of school curriculum and text books and change in pedagogical methods. Vocational streams are also being explored and expanded to equip the large number of secondary students with occupation-related knowledge and skills.

Computer Education

A total of 1718 government secondary schools (out of 3452 government secondary schools) are covered by the computer education programme. This has helped bring information technology within the reach of rural students. All the government and aided secondary school teachers have been trained by the state with the active collaboration of Intel in using computers for teaching their subjects. Microsoft is also training teachers for the past 3 years through its Computer Academies situated at Bangalore, Gulbarga and Dharwar.

KSQAO Assessment

For the first time in the history of school education in the state, a state level survey of attainment levels of children in II, V and VII Standards was carried out in 2006 by the Karnataka Schools Quality Assessment Organisation (KSQAO), which revealed a median 50% average performance.

Table 2.4
Performance in Attainment 2006

Subject	II Std	V Std	VII Std
Overall	67	49	48
Kannada	65	51	54
Mathematics	61	46	40
Science (EVS)	78	53	50
Social Science	—	47	46

Source: KSQAO, GOK, 2006

The overall performance in II standard was 67%, V standard 49% and VII standard 48%. Girls performed marginally better than boys in all the classes.

X Standard Public Examination Results

At the X Standard public examination level, there has been a steady improvement in the results over the years.

Table 2.5
Performance in X Standard Public Examination

Year	2001	2002	2003	2004	2005	2006
State Average	45.70	50.96	55.11	64.67	62.47	70.91

Source: Annual Report 2006-07

Until 2003, the percentage of passes hovered around the 50% mark. After a number of trials, the pattern of question paper was changed in 2006 by giving weightage to multiple choice questions (MCQs). (Refer Annexure). As a result, the performance improved considerably. In March 2006, 68.46% of those children who appeared passed the examination. The performance of girls (71.30%) was better than that of boys (66.18%). The results of 150 schools were more than 85%.

Karnataka Schools towards Quality Education (KSQE)

The KSQAO 2006 assessment survey results provide information on the current status of learning achievement levels across the state in different classes and subjects. It provided a thrust for quality improvement through better accountability.

KSQE was an attempt to focus additionally on quality-related areas in close coordination with all stakeholders—students, parents, teachers, community, SDMCs, elected representatives, etc. Through KSQE, the state aims to achieve the following goals in every school of the state within a time frame of 3 years:

1. Enrolment of all children in the age group of 6–14 years
2. Ensuring 75% attendance of all enrolled children
3. Ensuring at least 60% of the children acquire 80% of the competencies

These goals were expressed and declared in the form of a “Quality Charter” which was signed by the Chief Minister, Education Minister, officers of the Department, representatives of the community and teachers’ associations at a public function on 15 June 2006.

Important Issues in School Education Sector

The state is yet to achieve 100% enrolment and retention at the elementary stage. Regional disparities are a major drawback in achieving the goals of UEE. There are a large number of single-teacher schools.

Apart from the fundamental issues of lack of delivery of quality and universal learning, it is also observed that the education system in Karnataka is faced with rising expectations of the people on the one hand and the pressures of the economy undergoing structural reforms on the other. The state is also on the threshold of universalisation of secondary education and hence the higher secondary education sector needs expansion commensurate with that in the secondary education sector.

Challenges in Primary Education

Some of the challenges which the state faces in achieving the goals of UEE are—quality, equity, high dropouts at the upper primary level, multi grade teaching, marked difference in enrolment percentage between boys and girls, high levels of regional, caste and gender disparities, low non-salary expenditure resulting in lack of development of infrastructure.

Low quality of classroom transaction is due to a variety of factors—reduced teaching-learning time for students, teacher absenteeism, teachers being used for non-academic activities, multi grade situations in a majority of schools, lack of proper monitoring and supervision, poor infrastructure in schools, lack of adequate teaching-learning materials (TLMs) in schools, etc.

Teacher absenteeism, whether for authorised or for unauthorised reasons, has an adverse effect on the quality of education. A World Bank survey in 2004 found that teacher absenteeism in the state was as high as 21.70%.

Challenges in Secondary Education

In the secondary education sector, the areas of concern are—lack of access to secondary schools in certain remote areas, parents unwilling to send girls outside their habitation in rural areas, majority of students

not completing secondary education, high dropouts among rural girls, inadequate levels of learning, inadequate in-service training of secondary teachers, low quality of classroom transaction, lack of adequate laboratory and library facilities, lack of proper supervision and monitoring.

Teacher absenteeism is also a serious issue in the secondary education sector. When a subject teacher goes on long leave, the students go without classes in that particular subject as usually there is only one subject teacher in a smaller high school. Efforts to make alternative arrangements through deputation of a teacher from a nearby school is usually opposed by local communities.

School Education Reforms

As part of school reforms, the trimester system was introduced in all the primary and secondary schools in the state from V Standard to IX Standard from 2003–04 in order to

- Ensure that learning is spaced throughout the academic year so that it is more meaningful.
- Remove the fear psychosis regarding the existing system of examinations.
- Change the system of testing only the memory of the learner and make the education system more inclusive for the average and below-average child.
- Evaluate the child both in scholastic and non-scholastic areas, thus giving due importance to the development of the all-round personality of the child.

In this system, the child is evaluated (written and orally) only in the areas covered in that trimester so that the burden of learning what one has learnt throughout the year is not carried. Evaluation is also done in non-scholastic areas like project work, life skills (physical education, yoga, and health education), value education, art and creativity. Grading was introduced as a part of reforms in evaluation. However, this system has been changed to the semester system from 2007–08, as several teachers protested that it placed additional burden on them due to conducting three full time evaluations in a year.

Pre University Education

Unlike in most states, the +2 stage consisting of XI and XII Standards has been treated as an independent stage in Karnataka due to historical reasons. A separate Department of Pre University Education looks after academic supervision and administration of the Pre University Colleges along with the conduct of a public examination at the end of the 2 year pre university course. The following table gives a bird's-eye view of the status of the this stage in the state.

Table 2.6
Status of Pre University Education 2006

Particulars	Govt.	Aided	Unaided	Bifurcated	Corporation	Total
No. of Institutions	856	531	1352	165	13	2917
Teachers	7,147	6,587	5295	NA	NA	19,029
No. of Students*	2.90	2.24	2.15	1.36	0.05	8.70

Source: Annual Report 2006–07

* Figures in lakhs and include I and II PUC

NA: Not Available

As can be seen from the above table, the presence of the private sector in Pre University education is overwhelming as 65% of institutions offering this course are private.

The results of II PUC public examination held in March 2006 are given below. It may be noted that the performance of girls has been consistently better than that of boys in all the streams. Performance of science students in this stage is a cause of concern as less than 50% pass every year.

Table 2.7
II PUC Results 2006

Figures in Percentages

<i>Stream</i>	<i>Boys</i>	<i>Girls</i>	<i>Total</i>
Arts	47.06	58.91	52.99
Science	46.39	52.19	49.29
Commerce	56.35	72.91	64.63
Total	49.93	61.33	55.63

Source: Annual Report 2006-07

Considering the fact that only 9% of the youth in the age group of 17-24 is studying in higher and technical educational institutions, the wastage and stagnation at the +2 stage points out to the enormous inefficiency in this sector. There is also a notable imbalance in the number of students passing out of the different streams.

Vocational Education

Vocational education was introduced (at the +2 stage) in the state during 1977-78 and was merged with the central scheme in 1988. The central government discontinued assistance in 1996 and since then, the state has been funding the entire vocational education.

29 vocational trades are being taught in 540 educational institutions in the state (193 government, 316 private pre university colleges, 4 government and 11 private first grade colleges, 2 government and 14 private polytechnics). 58,910 students were studying in these courses in 2006-07. The pass percentage in the April 2006 examination was 69.88%.

Higher and Technical Education

A well developed system of quality higher education is essential to economic growth. While it is the most dynamic facet of education all over the world, the situation is just the opposite in most of the states (including Karnataka) in the country.

Stagnation in higher education is primarily due to unattractive curriculum offered by our universities. Lack of quality and good standards has prompted many bright students to go abroad. However, there are exceptions like the Indian Institute of Science (IISc) and other premier institutions which offer top quality education.

Quantitatively, the growth of higher and technical education institutions has been phenomenal in Karnataka. But in spite of this, only 9% of the youth population (in the age group 17-24) is enrolled in them. This is far too low compared to developed countries which have about 40%, and South East Asian countries which have about 20% of the youth (in the indicated age group) pursuing higher and technical education.

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Collegiate Education

There are 182 government and 299 private aided first grade colleges and 561 self financing private colleges spread over 8 universities in the state. The Directorate of Collegiate Education publishes information with respect to only government and aided colleges and as such reliable data does not exist with respect to private unaided and self financing colleges which come under the direct control of the universities. The student strength in government and aided colleges in 2006-07 was:

Table 2.8

Enrolment in Government and Aided Colleges

Colleges	Boys	Girls	Total
Government	52,443	67,045	1,19,488
Private Aided	1,10,066	99,605	2,09,671

Source: Annual Report 2006-07

The system of providing autonomy to colleges is slowly taking root in the state. The Manipal Academy of Higher Education is one example. There are also several prestigious institutions in the state which have acquired "deemed university" status.

Decreased funding by government towards higher education has brought several well established aided colleges to subsistence levels and very few colleges (without independent resources) have been able to maintain quality and standards. The situation is still worse in the private self-financing sector.

Technical Education

The fast pace of development in science and technology, especially information technology, has had an impact on the technical education scenario in the state. At present there are 123 engineering colleges, 183 polytechnics, 6 junior technical schools and 3 degree (Fine Arts) colleges. Out of the 123 engineering colleges, 5 are government/university colleges, 11 private aided and 107 private unaided. Out of 183 polytechnics, 38 are government, 44 private aided and 107 private unaided colleges.

System Improvement Initiatives by the State

Over the years, the state has taken several initiatives to streamline the education system in the state. It set up a special Task Force on Primary Education headed by the famous scientist, Dr Raja Ramanna. This task force submitted two reports in 2001. Majority of its recommendations were speedily implemented.

In order to carefully analyse issues in all aspects of education and make systemic improvements in the education system, the state government then commissioned sub sector studies by specialists in 9 key areas. They were

1. Early childhood development and pre school education
2. Elementary education
3. Secondary and pre university education
4. Collegiate education
5. Teacher education
6. Technical education
7. Education and equity
8. Role of private sector in education
9. Structure and functions of education management and decentralisation

The main goal of conducting the sub sector studies was to pool together the existing information on each sub sector from various sources, analyse the current status of development, identify problems and issues and indicate directions for action. Most of the studies also carried out empirical field investigation. The Edu-Vision document developed by Dr Govinda of NIEPA was based on these sub sector study reports.

Besides, the World Bank prepared two papers—one on Financing Requirements and the other on Employment Opportunities in Labour Market *vis-à-vis* Education.

Organisation Reengineering Study

This study commissioned by the Education Department in 2005 was carried out by Price Water House Coopers Limited in collaboration with PPU. The study focused on 3 principle elements, namely

1. Organisation structure enabling the Elementary Service Delivery (ESD),
2. Key processes affecting the ESD, and
3. Identifying capacity building requirements to enhance the ESD to the desired level.

Two reports were submitted in 2006 – An “As-Is” Report which gives the current status of the system and a “To-Be” Report which gives detailed recommendations. Workshops were organised to understand the stakeholder’s roles, perceptions and study expectations and to share the findings of the reports at various stages.

The Eduvision 2015 — Perspective Plan

The GOK constituted a committee headed by this author and entrusted it to prepare a 10 year perspective plan called “Eduvision 2015”. The committee submitted its first report in April 2007 and the final report in July 2007. The first report consists of a set of recommendations relating to the following sectors — pre school education, elementary education, secondary education, teacher education and pre university education.

After due deliberations with all the stakeholders, the committee proposed a vision statement and based on this vision, presented the second report in 2 parts. The first part discusses the vision statement, background, issues and the programmes which can be taken up to improve education levels in each of the sectors. The second part details the financial implications of the suggested programmes.

Private sector Participation in Education

A significant feature of Karnataka’s education system is the presence of a large private sector, especially at the secondary stage and beyond. There are aided private institutions which receive grants from the government, and unaided institutions which do not receive any such grants. In spite of a huge presence, private schooling is recent and to a great extent an urban phenomenon. At the elementary stage 92 % of enrolment in rural areas is in government schools. At the secondary stage, the presence of the private aided sector is significant both in rural and urban areas, whereas the unaided schools are more prevalent in urban areas.

Expenditure on Education

Against 3.8% of the GNP spent on education in the country, Karnataka spends 3.2% of the SDP and around 16% of its total budget on education. Elementary education receives 55% of the education budget followed by secondary education at 33%, university and higher education at 12 %.

In 2006 – 07, the budget allocation for various sectors was as follows:

Table 2.9
Budget Allocation to Various Sectors in General Education

Figures in Crores

Sector	Plan	Non Plan	Total	Percentage
Primary Edn	744.38	2180.17	2924.55	57.31
Secondary Edn	190.03	1350.65	1540.68	30.19
University & Hr Edn	26.38	485.50	511.88	10.03
Adult Education	7.27	2.09	9.36	0.18
Language Dev.	4.40	9.27	13.67	0.27
Other Gen Edn	100.01	3.12	103.13	2.02
Total	1072.47	4030.80	5103.27	100.00

Source: Budget Papers 2006-07

However, 90% of this expenditure goes towards salaries and allowances of government and aided school teachers, and very little is left for quality improvement programmes and capacity building in existing institutions.

In Karnataka, according to HDR 2005, "The non salary component is low and the expenditure on infrastructure, teaching aids, curriculum development, instructional material, laboratories, libraries, in-service teacher training—in short all the things that contribute to the quality of education, is totally inadequate".

Chapter 3

The Progress of Education in Karnataka

Early Education Systems

From very early times, the ancient Brahmanical system of education, also known as the Gurukula system, was prevalent in the state. Ancient Karnataka had a network of educational institutions in the form of Agraharas, Mutts, Brahmapuris and Ghatikasthanas. These institutions followed the traditional Hindu methods of teaching. Sringeri was an important seat of higher learning.

In the Gurukula system, as and when the occasion demanded, senior students also performed the functions of the Gurus in guiding junior students. The instruction was entirely oral and practical instruction was restricted to carrying out duties as a priest of the school to which the student belonged. The period of studentship was about 12 years.

The curriculum was a comprehensive one consisting of Vedas, Vedangas, Vedanta, Purana, Nyaya, Mimamsa, Agama, Astrology, Grammar, Mathematics, Logic, Ethics, Etymology, Warfare, Astronomy, and Yoga Shastra. This type of instruction, originally restricted to Brahmins but later extended to Khshatriyas and Vaishyas, was customised to suit the respective vocations of the student families.

Later, Sanskrit schools called Pathashalas came to be established in different parts of the state in agraharas and mathas. These institutions continued the ancient system of education. While higher education was in Sanskrit, primary education was in Kannada. These pathashalas were supported by the state to some extent and there are several inscriptions which have recorded the kings' providing land and an annual grant to them.

Mathas were residential schools where the teacher and the taught lived together. There were also Koolimatha, Salimatha or Odisuvamatha where a teacher ran a school either in his house or in a temple or a choultry and was paid in cash or in kind (*gurudakshina*) by parents of children at the time of harvests. Rich families also engaged individual teachers to teach their children.

From the twelfth century onwards, the Veerashaiva mathas played a prominent role in providing education through Kannada to all children of local communities without making any caste or sex distinctions. Primary education was known as "Balabodhe". The children used to write on dust or sand—the alphabet, numerals up to 100, multiplication tables, problems on fractions, calculation of money, etc. From dust/sand writing, the children proceeded to writing on palm leaves or paper, reading and arithmetic.

Later on children were exposed to literary works which was at the discretion of the scholars. Some of the works the students studied at the time were Jaimini Bharatha, Vidura Neethi, Amarakosha, Panchatantra and Someswara Shataka. Vocational learning was hereditary, in fact even administrative service in those times was hereditary.

Islamic Education

With the advent of the Muslim rule, a common system of Islamic education came to be established in the state. The Maktab and Madrasa attached to a mosque were centres for instruction and literary activities. The education activity in the Maktab was of the primary level whereas the Madrasa was a school for higher learning. Education to girls was provided, but under certain restrictions. However, sons and

daughters of the nobility were educated. The course of education consisted of grammar, logic and law, fundamental doctrines of Islam, astronomy based on translations of Ptolemy, and metaphysics.

Education in the Early Nineteenth Century

In the early nineteenth century, the instruction given in the indigenous schools essentially comprised the three Rs – Reading, Writing and Arithmetic. The schools worked from 6 am to 10 am and from 3 pm till sunset. Education was confined to a very small proportion of the people belonging to the higher class. The masters were generally supported by small payments from influential residents and presents from the parents.

In 1877, there were 35 such Hindu schools (7 Telugu, 4 Marathi, 21 Kannada and 3 Tamil schools) with 560 students in the Fort and Cantonment areas of Bangalore. The richer boys paid a higher fee than the poorer ones. Besides, they gave presents to their teachers in kind.

It is of interest to note that education was never regarded as a duty of the state. It was voluntary agencies and religious leaders who spearheaded the cause of children's education.

Education in Princely Mysore State

A modern system of education was established in Mysore as early as in 1833, when a free government English school known as the "Raja's School" (later called The Maharaja's School) was established by the Maharaja of Mysore. This school was in the care of the Wesleyan Mission from 1840 till 1850. By 1865, the school had a student strength of 300.

On 18 January 1865, the Maharaja of Mysore held a public examination of the school in the presence of a large number of ladies and gentlemen. The boys of the highest class were examined in English, Mathematics, History and Map drawing, in which they did remarkably well. This was the genesis of the later day Public Examination system.

The Government Girls School (The Maharani's School), started in 1881 with support from the Maharaja of Mysore, was a landmark in the field of girls education in the state. By 1948-49, there were 1.9 lakh girls in schools.

Contribution of Christian Missionaries to the Progress of Education in Mysore State

A Wesleyan Mission English teaching school was started in Mysore in 1835 which is running even today. The first school for girls was started in 1840 in Bangalore City by the London Mission. This was upgraded as a Girls High School in 1902. Even though these schools catered largely to the local Christian families, admission was open to all communities. Generally reading, writing, teachings of the Bible, and elements of Geography and Arithmetic were taught.

Later on, a number of schools were started in various places by the Christian missions as well as by the Hindu and Muslim education societies. Many of them started getting grants from the state. But an organised system of education was not yet a reality.

Establishment of the Department of Public Instruction

Sir Mark Cubbon, the then Chief Commissioner of Mysore, forwarded a scheme of education for Mysore and Coorg jointly to the Governor General in Council. It was sanctioned by the East India Company in Communication No: 585 on 6 February 1857. Under it, the Department of Public Instruction for Mysore and Coorg was established in 1857. The posts of a Director of Public Instruction, 2 Inspectors of Schools, 4 Deputy Directors and 20 Sub Deputy Inspectors were created. A Sub Deputy Inspector had jurisdiction over an average of 4 taluks.

Four anglo-vernacular schools of a superior class, one for each of the 4 divisions (Bangalore, Nagar, Chitradurga, and Astagram), and 80 taluk vernacular schools – one for each taluk and 2 normal schools (for teacher training) were proposed under the scheme. The total budget proposed was Rs 1.13 lakh.

Along with the Raja's School at Mysore, the schools at Tumkur, Hassan and Shimoga were converted to government schools, thus forming the basis of divisional schools. Three more such schools were started by the government at Kolar, Chikkamagalore and Chitradurga by 1863. These divisional schools were to be connected to a central school in Bangalore by means of scholarships. The standard of instruction in them was not high which is borne out by the fact that till 1863, no student reached the matriculation standard of the Madras University.

The Hobli School System

The next step was the opening of schools in every hobli. Under the scheme drawn up by Lewis Rice, the then Director of Public Instruction, Hobli schools (public schools providing vernacular education) were started in phases in each of the 645 hoblis between 1868 and 1880. They were supervised by a Sub Deputy Inspector who was in charge of a district. This was an important landmark in the history of education in the state. When the strength of Hobli schools increased, branch schools were opened in adjacent villages. All Hobli schools were classified as primary schools even though some of them had middle school classes. They were further classified as Lower Primary (Infant and I standard) and Upper Primary (Infant and 3 higher classes) schools.

Education at both the lower primary and the upper primary stages was made free by 1907-08. In 1923, it became mandatory for all primary schools to provide 4 years of vernacular education. The pupil teacher ratio was fixed at 30:1. An additional teacher was provided for every additional 30 children. In 1922, village school committees were set up for every school with definite powers and functions.

Establishment of Middle Schools

The 1854 scheme also provided for the establishment of vernacular schools (Kannada/Tamil/Telugu/Urdu) in every taluk. Schools were called Vernacular Schools or English Schools according to the first language taught. The middle school classes came to be identified as Primary 5, 6, 7 and 8 classes. These schools provided instruction of a very elementary nature in English besides the local language and other subjects. They imparted 4 years of middle school education and prepared students for the English Lower Secondary (LS) Examination.

Expansion of Education in the Second Half of Nineteenth Century

The expansion of education in the princely Mysore state in the second half of the nineteenth century was severely hampered after rendition due to financial constraints of the state. Two important factors contributed to it—annual payment of one-third of the state's revenue as subsidy to the British Colonial government, and the great famine of 1874. Thus education did not receive much support from the government till 1886.

In 1864, there were only 64 schools (including aided schools) in the state with a strength of 4,333 students. By 1866 the number of schools increased to 81 with student strength of 5,642. These schools were classified into 3 categories. There were 5 First Class or Superior English schools which educated students upto the university level, 21 Second Class or Inferior English Schools, and 46 Third Class or Canarese (Kannada) Vernacular schools. Out of the student strength of 5,642, there were 807 Europeans or Eurasians, 3,481 Hindus and 1,354 Muslims.

In 1886 education received a special impetus. The Dewan announced the education policy of the state in the Mysore Representative Assembly: "The policy of the government is to bring secondary education within reach of all classes, promote the study of the local vernacular and the Sanskrit language, to improve and extend female education and to encourage professional, technical and higher education".

The annual report of 1869-70 shows the status of education in the princely Mysore state during 1868-70.

Table 3.1
Status of Education 1868 – 70

<i>Types of Schools</i>	<i>1868–69 Schools</i>	<i>1868–69 Scholars</i>	<i>1869–70 Schools</i>	<i>1869–70 Scholars</i>
Government schools	89	4,839	98	5,527
Sub Taluk schools	146	5,088	239	5,837
Grant in aid schools	74	5,202	78	5,773
Total	309	15,129	415	17,137

Source: History of Education in Mysore—A C Devegowda

This shows that there was a steady progress, year on year, in the expansion of education system in the state. Classified by race, there were 13,715 Hindus, 1,999 Muslims and 1,423 Europeans or Eurasians. 15,066 boys and 2,071 girls were studying in the state's schools at that time.

Girls Education

Not much importance was given to education of girls in the nineteenth and the early part of twentieth centuries in the princely Mysore state. The Wesleyan and the London Missions established girls' schools in 1840 and there were 8 of them by 1866. (The London Mission School, now known as Mitralaya Girls High School, is functioning even today). By 1865–66, there were 365 girls in 81 private schools. The following table gives the proportion of girls (12%) studying in government and private schools in the state in 1870.

Table 3.2
Enrolment in Schools in Princely Mysore, 1870

<i>Schools</i>	<i>Number of Schools*</i>	<i>Boys</i>	<i>Girls</i>	<i>Total</i>
Government	334	10,565	1,360	11,925
Private schools	412	14,539	1,935	16,474
Total	746	25,104	3,295	28,399

Source: Administrative Report 1870

* There were 5 government and 28 private girls' schools in the state

There was some opposition to girls' education as can be seen from the Editorial of the "Mysore Recorder" dated 30 April 1863, which criticised the opponents of girls' education. There was opposition from the members of the Mysore Representative Assembly also. Proposals were placed in the assembly to restrict women from being educated in the English medium. Though the proposals were defeated, officials within the administration slowed the process of expansion of girls' education in the state.

The Maharani's Girls' School was established in Mysore in 1881. The school differed from other government schools as facilities provided were on par with schools meant for European children. It had students from the nobility, families of court officials and poor widows. The opponents of girls' education went so far as to spread false rumours that the purpose of the Maharani's School at Mysore was to supply

girls to the Maharaja. To counter this propaganda, the then Dewan of Mysore, Sir Sheshadri Iyer, responded by converting it into a government institution and permitting admission to girls of all castes.

The education policy announced by the government in 1886 gave a special impetus to girls' education. In 1887, to commemorate the golden jubilee of Queen Victoria, the Empress Girls' School was established in Tumkur. By 1890, the Maharani's School at Mysore had 500 girl students and by 1897, the state had 120 government girls' schools which included 69 Urdu girls' schools. The Maharani's Girls' High School started the FA classes in 1900 to facilitate university education for girls who had passed matriculation. Though girls' education received wholehearted support from a majority of the people, there were reservations regarding teaching of English and Science to them.

Noteworthy is the private individual initiative to promote girls' education in the state by learned people who started girls' schools in their homes. By 1871, these single teacher schools had 1664 girls in Bangalore and Mysore districts alone. The devastation caused by the plague in 1897 necessitated the government's taking over of these private schools and running them in government boys' school buildings.

Unlike the boy's schools where the students from upper castes dominated, the girls' schools had students from diverse castes. The following table gives the caste-wise composition of girls studying in the 5 government girls' schools in Bangalore city in 1905.

Table 3.3
Caste Composition of Girls in Schools in Bangalore City, 1905

<i>Caste</i>	<i>No. of Girls</i>
Brahmins	266
Kshatriyas	6
Lingayats	46
Vysyas	17
Jains	5
Other Castes	164
Christians	1
Muslims	70
Total	575

Source: Education Department Records

By 1904, girls who had completed matriculation began to knock on the doors of colleges. 575 girls had passed high school but many were denied admission at the Central College, Bangalore, when they chose to pursue college education. Subsequently, a college section had to be added to the Maharani's High School at Bangalore.

The Municipalities in Bangalore and Mysore conducted a census of girls of school going age in 1917. The following table gives an estimate of such girls attending/not attending schools in Bangalore and Mysore cities.

Table 3.4
Enrolment of Girls in Schools, 1917

City	Existing Girls schools	Girls Attending 7-10 yrs	Girls Not Attending 7-10 yrs	Proposed New Girls Schools
Bangalore	27	2,460	2,800	26
Mysore	27	3,515	912	14
Total	54	5,975	3,712	40

Source: GO No. 671-4-Edn. 3-17-44, dated 22/7/1918

Again there was opposition from officials in 1914 when Sir M Visveswaraiyah, the then Dewan of Mysore, proposed implementation of compulsory education for girls. However, his proposal met with some success in 1918 when the government opened 27 places to educate girls on a compulsory basis.

The grant-in-aid rules were also relaxed in case of private girls' schools and grants for girls' schools were given upto two-thirds of the costs. But, slackness in implementation hindered the expansion of girls' education at the desired pace.

Compulsory Primary Education in Princely Mysore State

Compulsory primary education was introduced (Elementary Education Act 1913) in 15 selected centres during 1914-15. To ensure quality, it was mandatory for teachers to have passed the L S examination (LS = 8 years of primary schooling). Subsequently, the implementation of compulsory primary education was extended to 250 centres covering all important towns and major villages of the state. The compulsory age limit was notified as 7 to 11 years corresponding to the 4 years of the primary course. The first revision of curriculum was affected in 1923-24 which brought out uniformity in instruction in all schools in the state. In 1931, primary education was placed under the control of local district boards and municipalities. Since this did not help in further expansion of education facilities, the government resumed control over primary education through the Elementary Education Act, 1941. Primary schools under the local boards became departmental schools leading to a rapid expansion of schooling facilities in the state.

Thus, even before independence, in comparison to a 16.6% literacy in the country, the princely state of Mysore had recorded an admirable 20.3% literacy.

Primary Education in Bombay Karnataka Area

In Bombay Karnataka, a modern system of education was established in Belgaum in as early as 1826 with the opening of two Marathi vernacular schools. Kannada schools were set up after 1836. A Board of Education was formed in 1840 which functioned till 1855 during which period 34 vernacular schools were established along with one English school. In addition to the governments' efforts, Christian missionaries such as Basel Mission started several schools. By 1881-82 there were 763 government vernacular and aided schools along with 574 unregistered private schools in the 4 districts of Belgaum area. 47 girls' primary schools in 1881-82 increased to 402 by 1947.

A special feature was the Karnataka Lingayat Education Trust (now known as Karnataka Liberal Education Trust) which spearheaded the spread of education in the area by starting a number of educational institutions. The Bombay Primary Education Act of 1923 handed over primary education to local authorities and a scheme was introduced for establishing voluntary aided schools in villages with a population of 700 and below, and Board schools with a population of more than 700. The Bombay Primary Education

Act of 1947 returned the powers of managing primary education to the government and an element of compulsion was introduced in a phased manner.

Education in Hyderabad Karnataka Area

In Hyderabad Karnataka area, the medium of instruction was originally Marathi which subsequently was replaced by Kannada in primary schools. In 1911, a royal ordinance was issued making primary education free. During 1911–21, primary education was expanded with the object of providing a school to each village with a population above 1000. The expansion of the education system was rather slow in this area. Only 7% of the women in Hyderabad Karnataka area were literate at the time of the 1961 census when female literacy in the rest of the state was 18%.

Education in Madras Karnataka Area

In the Madras Karnataka area, missionary societies entered the field of education and established schools in Mangalore, Udupi and Bellary by 1838. The London Mission started the first girls' school in 1833. A grant-in-aid code was introduced in 1855 bringing many schools started by local communities under the modern system of education. The Madras Elementary Education Act of 1863 supported expansion of primary education by providing funds for the same. By 1931–32, there were 132 primary and 7 high schools for girls in Dakshina Kannada district.

In Kodagu, 2 Anglo - vernacular schools and a Kannada primary school were started by the government in 1834. A regular system of education came into existence in 1857 and the schools expanded rapidly after 1921.

Expansion of Primary Education (1947–1971)

The following table shows the progress of education in terms of increase in educational institutions, number of students and teachers from 1947 to 1971. The notable increase in figures in 1956–57 is due to integration of the state.

Table 3.5
Expansion of Primary Education (1947–1971)

Year	Total Institutions	No. of Students*	Primary Schools	No. of Students*	Primary Teachers
1947–48	10,484	6.98	9,285	5.19	18,331
1955–56	13,152	9.93	12,553	8.60	31,244
1956–57	23,152	20.68	22,803	19.17	60,882
1960–61	28,622	28.77	27,050	24.46	72,569
1965–66	34,299	42.06	31,343	35.01	92,858
1970–71	35,728	47.93	32,630	40.04	96,362

Source: *Twenty Five Years of Education in Mysore State*—Prof. D R Murugendrappa

*Figures in lakhs

On an average, there was one primary school for every 3 square miles, 61 children and 957 people. Out of 18,331 primary teachers in 1948, only 1965 (10.9%) were women. However, their strength increased to 20,626 (21.1%) by 1972.

The grant-in-aid code was revised in 1948–49, according to which 70% of the authorised expenditure of nursery schools in rural areas and 50% of expenditure of nursery schools in urban areas was met by the government.

The Changing Pattern of School Education

At the time of reorganisation of the state in 1956, different patterns of school education existed in areas that were being integrated with the princely Mysore State. In princely Mysore area, it was 4 years of primary education and 7 years of secondary education (the latter consisting of 4 years of middle school, also called the lower secondary, plus 3 years of high school).

Students selected their optional subjects in the second year of high school. There were 2 public examinations at the secondary school stage—one at the end of lower secondary stage (8 years) and one at the end of the high school stage, also called SSLC (11 years).

In Madras Karnataka area and Kodagu, the pattern of primary education was 5 +3 years, while in Bombay Karnataka area the pattern followed was 4 +3 years.

The connotation of the term "Primary Education" underwent a sea change in old Mysore area during 1955–56. 4 years of primary and the 4 years of middle school were integrated to a course of 8 years. Thus secondary education was now meant to be 3 years of high school education only. By and by, the recommendations of the Education Integration Advisory Committee (constituted in 1957), that primary education should be an integrated course of 7 years, were universally implemented in the state by 1962–1963.

Similarly, a new pattern was introduced in phases at the high school level from 1960–61. The first year of high school was called VIII standard, the second year IX standard, and the third year X standard. During the year 1963–64 the students who passed VII standard (new pattern) and students who passed Class 8 (old) were put together in the same class in VIII standard (new) of high school. Thus there were two sets of students in the same class in 1963–64 in accordance with the new pattern.

The pattern at the higher education level comprised 2 years of Intermediate course followed by 2 years of degree course. The total duration of education upto the degree level was 15 years. In 1957–58, the universities changed this pattern: accordingly, the duration of the pre university course was one year while that of the degree course was 3 years. In the year 1970–71, the duration of the pre university course was again changed to 2 years.

At present school education in Karnataka follows a 10 year pattern, the break up of which can be structured as 5+3+2. But in reality, it is 5+2+3 as very few higher primary schools have VIII standard, whereas every high school has VIII standard. The + 2 stage (pre university level) exists in composite junior colleges or independent junior colleges.

Growth of Primary Schools after Integration

With the purpose of mapping out and delimiting the areas served by primary and high schools, the first education survey was conducted in 1957 by a survey unit. In 1956–57, a large number of single teacher primary schools were opened in places where facilities for primary education, as per the recommendations of the Education Survey Report, were found to be lacking.

In 1965–66, the Survey Unit was established as a permanent unit. In addition to surveys the unit made surveys relating to different aspects of education like wastage and stagnation in primary education, primary school buildings, library services, teacher education, audio visual (AV) facilities in schools, establishment of book banks etc.

The second educational survey which was conducted in 1965 revealed that 89% of the people in rural areas were served by primary schools. Thus there was a rapid expansion of schooling facilities from 1965.

By 2005–2006, the number of primary schools had increased 5 times, students' enrolment 13 times and number of teachers 12 times compared to the figures available for 1950–51. Table 3.6 gives the decadal growth in the number of institutions, students' enrolment and the number of teachers.

Table 3.6
Expansion of Primary Schooling Facilities 1950–2006

Year	Primary Schools	Enrolment In lakhs	Teachers	Teacher Pupil Ratio
1950–51	10,184	6.35	21,268	1:30
1960–61	27,050	24.46	72,569	1:33
1970–71	32,630	39.24	96,362	1:40
1980–81	35,116	49.86	1,12,839	1:44
1990–91	39,857	69.33	1,40,435	1:49
2000–01	49,914	84.25	2,34,100	1:34
2006–07	56,348	87.21	2,53,576	1:31

Sources: History of Education in Mysore and Annual Reports of the Department

Literacy and Adult Education

The first efforts at spreading literacy and adult education (AE) began with Sir M Vishweshwarayya operationalising a network of 3000 rural libraries in old Mysore. In 1940, the Mysore Adult Education Council was set up and it functioned as the chief agency for imparting adult education for many decades to come. It gave special attention to the preparation of reading material for neo literates with the cooperation of well-known Kannada writers. It also started Vidyapeethas across the state where rural people were trained in job oriented activities apart from developing literacy skills.

In 1978 the National Adult Education Programme was introduced. The National Literacy Mission, set up a decade later, adopted a systematically planned campaign to achieve literacy. In Karnataka total literacy campaigns commenced in Bijapur and Dakshina Kannada districts in 1989–1990 and later extended to all districts in a phased manner. A fresh initiative was organized in 1997–98 through the “Kannada Nadu–Sakshara Nadu” campaign. The Directorate for Mass Education has been taking up post literacy and continuing education campaigns to ensure that neo literates do not lapse into illiteracy.

Expansion of Secondary Education

Establishment of Secondary Schools in the Nineteenth Century

The first Government High School in the princely Mysore state was set up in Bangalore in 1858. It was later named as the Government Collegiate High School and was affiliated to the University of Madras. Mr Lewis Rice, who was its first Principal was also the first Director of Public Instruction of Mysore. In 1865, two more private English institutions—Bishop Cotton School and St. Andrew’s school—were started.

The number of high schools in the state, which was 11 in 1871, went up to 14 in 1900. Rules for recognition of high schools were issued in 1882, according to which no high school could prepare students for the matriculation examination unless recognised by the Madras University.

With the object of combining general education and teacher training, high school classes were added to the District Normal Schools in 1918–19. The high schools consisted of 3 years called IV, V and VI forms. After completing the VI form, the students took the Madras Matriculation examination. English was the medium of instruction until 1930–31, when Kannada was introduced as the medium. The district boards took over the management of secondary schools in 1948–49, which resulted in rapid expansion of the high school system in the princely Mysore state.

In Bombay Karnataka area, there was one high school in each of the four districts in 1890. Christian missions and private agencies like the KLE Society also set up high schools in larger towns. By 1956, the Bombay Karnataka area had 128 high schools out of which only 9 belonged to the government.

In Madras Karnataka area, the first missionary school was started in Dakshina Kannada in 1860. District Secondary Education Boards were set up in 1923. This helped in the expansion of secondary education and by 1951 there were 64 high schools in this area.

In Hyderabad Karnataka area, the first high school was set up in Gulbarga in 1885–86. Bidar saw its first high school in 1891. By 1956 there were 19 high schools including 4 girls' high schools in the Hyderabad Karnataka area.

In Kodagu a high school was set up in 1879. In 1909, the French Catholic Mission opened a girls' high school. By 1956 there were 5 government high schools and 6 private aided high schools.

With the expansion of primary education in the first half of the twentieth century, the demand for middle schools and high schools grew steadily. Many municipal bodies came forward as early as in 1928 to meet the demand and started high schools in the state. In appreciation of this gesture, the government liberalised the system by providing them with grants for building and maintenance. The maintenance grant which was one-half of the net authorised expenditure was increased to three-fourths of the same while the building grant was increased from Rs 25,000 to Rs 50,000 in each case.

At the time of independence, out of 93 high schools in the state, 45 or nearly 50% were municipal high schools. The participation of the private sector at that time was significant as there were 14 aided and 15 unaided high schools in the state.

In addition to the policy of encouraging local and private bodies to start high schools, the government also opened them in rural areas where local or private bodies were not in a position to do so.

The following table gives the caste-wise enrolment of students at the secondary level at the time of independence. This table not only reveals a strong gender bias towards boys (83.5%) but also shows that a higher proportion of high school students were from predominant castes.

Table 3.7
Caste-wise Enrolment of Students in High Schools, 1947

<i>Caste</i>	<i>Boys</i>	<i>%</i>	<i>Girls</i>	<i>%</i>	<i>Total</i>
Brahmins	9,947	43.30	3,013	66.50	12,960
Vokkaligas	3,379	14.60	134	2.90	3,513
Lingayats	1,210	5.30	96	2.10	1,306
SC/ST/Others	8,469	36.80	1,294	28.50	9,763
Total	23,005	100.00	4,537	100.00	27,542

Source: Karnataka State Gazetteer, Part II (GOK)

At the time of reorganisation of the state, different patterns of secondary education existed in different regions, thus rendering it complex. As per the recommendation of the State Education Integration Committee, a uniform pattern and curriculum was prescribed and introduced from 1960–61 in VIII standard which was extended to IX standard in 1961–62 and then on to X standard in 1962–63. Some schools were converted into higher secondary schools and XI standard (equivalent to the pre university course) was introduced in those schools. The examination for XI standard was conducted by the respective universities.

Growth of Secondary Education after Integration

There was a rapid expansion of secondary schooling facilities in the state after integration. By 2005–06, the number of secondary schools increased by 50 times (compared to figures available for 1950–51) with

an enormous increase in student enrolment and teacher strength. The table below gives a view of this growth.

Table 3.8
Growth of Secondary Schools

Year	Schools	Enrolment In lakhs	Teachers	Teacher Pupil Ratio
1950-51	209	0.54	2,515	1:21
1956-57	535	1.25	7,580	1:16
1960-61	778	1.69	10,634	1:16
1965-66	1,491	4.49 *	18,054	1:25
1970-71	2,002	4.82	21,400	1:23
1980-81	2,596	8.98	31,515	1:25
1990-91	4,192	13.30	37,344	1:35
2006-07	10,537	24.11	86,307	1:30

Source: History of Education and Annual Reports of the Department

The following points are to be noted:

- The sudden increase in enrolment in 1965-66 was due to abolishing L S class and clubbing of old LS Class and new VIII standard students.
- 365 local body high schools were taken over by the government in 1971-72.
- The percentage of trained graduate teachers which was 33% in 1950-51 increased to 67.50% in 1970-71.
- Subsequently, only trained graduate teachers are being appointed as secondary school teachers.

Pre University Education

The one year pre university course was introduced in the state in 1957, in place of the two year intermediate course and the CPI's office was in charge of its administration originally. The higher secondary class XI which was considered equivalent to PUC existed from 1964 to 1970. Composite colleges (high schools with PU sections) came under the CPI while Degree colleges with the Pre university sections came under collegiate education.

On the basis of the recommendations of the K P Surendranath Committee, a separate Board for Pre university education was constituted in 1970. The Board had a chairman and a committee which included Vice-Chancellors of all the universities. In the beginning, the P U Board was only an examining body and was responsible for independent Junior colleges. It was later converted into an independent directorate to take care of both administrative and academic supervision of all the Pre university colleges.

The duration of the pre university course was increased to 2 years in 1972, as the duration of schooling up to SSLC had been reduced to 10 years (primary 7 years + high school 3 years) from the previous 11 years (primary 4 years + middle 4 years and high school 3 years). The committee constituted in 1997 to review the +2 stage of education under the chairmanship of Sri D V Urs, former Vice-Chancellor of Mysore University, submitted the following recommendations:

1. Formation of a statutory Board for Pre university education,
2. All institutions offering +2 stage to be brought under the administrative control of this board,

3. The +2 stage to be bifurcated from high schools and degree colleges in a phased manner and brought totally under the control of the Board,
4. The Board to have control over all aspects of Pre university education—curriculum, textbooks, courses of study, all academic and examination matters.

There were composite Pre university colleges with high school sections and independent junior colleges in both government and private sectors. Pre university classes which were part of first grade colleges were separated to form independent junior colleges in 2001–02 and brought under the control of the Department of Pre university Education. With this, all colleges imparting PU education are now under the control of the Director of Pre university Education. The post of the Director has since been upgraded to that of Commissioner.

Teacher Education

Primary Teacher Training Institutions

Primary Teacher Education has a long history in Karnataka. The first primary teacher training institution came into being at Dharwar in 1857. The former Bombay state used to conduct a 3-year training course at the Training College for Men at Dharwar. Teachers trained here were highly respected and senior teachers with good service records were eventually elevated to become School Inspectors. In fact, one-third of the posts in the School Inspectors cadre were earmarked for these teachers.

In the princely Mysore state, a Normal School was established in Bangalore in 1861 to train masters for government schools. By 1868, similar schools were established in each one of the 7 districts of the princely Mysore state to train masters for Hobli schools. Selection criteria for students of these Normal Schools were stringent with a background check of candidates being carried out meticulously before admission.

The Annual Report of the department for 1867–68 states that admissions of 354 men were rejected as they had failed to meet the strict norms for selection. The attainments of those seeking admission to Normal Schools were also tested. Again, the Annual Report comments: "The attainments of these men were found to be ordinarily most limited. Reading from a printed book was done with difficulty and writing to dictation was performed without much regard to rules of orthography. The multiplication table was generally known up to a certain point as well as the process of subtraction and addition. This was generally the extent of their previous attainments".

The Annual Report of the department for 1866 notes that the Normal School consisted of two stages—a training stage and a preparatory stage where the candidates applied in practice what they had learnt theoretically. The subjects of study were adapted to the matriculation tests.

In a Normal School, a selected teacher was given training for 6 months and if he failed he would continue for another 6 months. The Annual Report comments, "They are now more or less prepared to give lessons in canarese prose or poetry, with explanation; in grammar; in arithmetic as far as fractions and proportion; and in general geography. Each man has further acquired knowledge of the principles of school management." After training was complete, these institutions were shifted to wherever training was required. The first teachers' certificate examination was held in 1866. But due to the great famine of 1877, all the Normal Schools were closed.

A Normal School was opened again in 1894 at Mysore with some more coming up in all the 7 districts. These schools prepared teachers for four different types of examinations.

1. Kannada Pandits' Examination
2. Primary Teachers' Certificate Examination (for teachers with Vernacular II standard)
3. Lower Secondary Teachers' Certificate Examination (for teachers with L S qualification)
4. Upper Secondary Teachers' Certificate Examination (for teachers with SSLC qualification)

In 1900, the Moulvis' examination was introduced for teachers of Hindustani (Urdu), Arabic and Persian. Successful candidates became eligible for appointment as Moulvis in high schools and colleges. The Pandits' and Moulvis' examinations were originally held once in 2 years.

The duration of the courses also changed according to the need. With the introduction of new subjects in the content of the school curriculum, a need arose to strengthen the teacher training courses. Keeping in mind the entry qualification for primary teachers—LS (class 8 in old Mysore state) and Mulki examination (class 7 in Bombay Karnataka area), the duration of the teacher training course known as Teacher Certificate Lower (TCL) was increased in 1925 to 2 years.

These training institutions were later converted into Vernacular Normal Schools in 1933. At the time of integration in 1956, there were 47 teacher training institutes (TTIs) in the state. Both TCL (Teacher Certificate Lower), for teachers with Class 8 (LS) qualification, and TCH (Teacher Certificate Higher), for teachers with SSLC qualification, courses existed prior to reorganisation of the state in 1956.

As the minimum qualification for recruitment of primary teachers was raised to SSLC, the TCL course became defunct. These SSLC qualified teachers had to undergo a one year TCH course to become eligible for recruitment. The duration of the TCH course was then increased to 2 years and the curriculum was revised in 1966. The first year was largely devoted to developing mastery of subjects while the second year was devoted to pedagogy and practical work. PUC (XII class) qualification was made a prerequisite for entrance to TCH course in the year 1987–1988.

The curriculum for the TCH course was revised again during the academic year 2002–03 and the course was renamed as Diploma in Education (DEd). The duration of the course was extended from 2 years to 2½ years to include six months of internship. This was again reduced to 2 years (including a 3 month internship) due to popular demand in 2004–05.

Table 3.9

Growth of Primary Teacher Training Institutions in Karnataka

Year	1890-1911	1912-1921	1922-1931	1932-1941	1942-1951	1952-1961	1962-1971	1972-1981	1982-1991	1992-2000
No.	03	04	06	06	17	39	58	77	134	134

Source: DSERT Report 2006

Secondary Teacher Education

Since there were no facilities for the training of graduate teachers during the nineteenth century, most of the teachers in high schools were untrained. Teachers were deputed from 1891–92, to the Teachers' College, Saidapet, Madras for the LT Course. Since this facility was discontinued, a graduate training section was opened in 1914–15 in the Men's Training College, Mysore.

During 1925–26, the University of Mysore started the BT (Bachelor of Teaching) course in the Maharaja's College, Mysore. In 1947, this BT course was converted into a separate Teachers' College by the University. This college was first located in the Marimallappa' High School premises, and later shifted to the Maharaja's High School. Dr M Siddalingaiah was its first Principal. He was succeeded in 1951 by Prof. A C Devegowda. The college celebrated its silver jubilee in 1952.

The BT degree came to be called the B Ed (Bachelor of Education) degree in 1953. The M Ed course was started in the college in 1956–57. The course was for one year for full time students and 2 years for part-time students. The college also had an evening B Ed course of 2 years duration for the benefit of untrained teachers working in Mysore city.

In 1954-55, the first private teachers' college—the R V Teachers College—came into existence in Bangalore. In 1955-56, the Institute of Education established a Teachers' College in Mysore. NCERT started the Regional College of Education (RCE) in Mysore in 1963-64. In addition to the one-year B Ed course, the college offered a 4-year integrated B Ed course and a Summer School-cum-correspondence BEd course for untrained teachers. By 1956-57, there were 7 colleges of education in the state.

In-Service Teacher Training

Karnataka is a pioneer in institutionalising in-service training of teachers. Even as early as 1888 one section at Maharani Girl's School, Mysore, had been opened for training lady teachers. (Source: *Gazetteer of India*, 1988, *Karnataka State*, Mysore district Page 647).

After independence, in 1958, the department set up the Orientation Training Centre (OTC) at Vidyanagar in Bangalore for providing in-service training to primary school teachers in science and mathematics. This centre happened to be a premier one in the state training 400 elementary teachers every year in these two subjects. Though it was able to achieve certain standards, the reach was inadequate to meet the demands of the teachers of the entire state.

Teachers' associations in several parts of the state conducted training of the teachers during the monthly teachers' meetings by arranging demonstration classes, etc.

Curriculum and Textbooks

To start with, there was no prescribed syllabus. The Annual Report for 1868-69 states that the following books were printed and published at low rates for local use in schools—"Padyasara"—a poetry reader, "Katha Saptati"—a story book in prose, "Vagvidhyani"—a grammar course, "Bhumivarnane"—a course in geography.

For higher classes, the report goes on to state, "The higher class of canarese literature has also been encouraged by the introduction of a complete edition of Valmiki's Ramayana—a work of which portions only have existed in print. Several private publications of a useful character have further been patronised". In 1866, the curriculum in the upper classes of Bangalore High School was revised, with a view to preparing the students for the matriculation tests of the Madras University.

In the vernacular schools the subjects taught were language, Arithmetic, Geography and History of India. Besides, an optional subject—Agriculture/Mensuration/Sanskrit/Hygiene—was also taught. For a student in a vernacular school, it took 6 years to appear for the Mysore Lower Secondary Examination. In the Anglo vernacular schools the subjects taught were I language (English), II language (Kannada/Urdu/Telugu/Tamil), Arithmetic, Geography, History of India. Besides, an optional subject—Sanskrit or Mathematics (Algebra and Geometry) was also taught. For a student of an Anglo vernacular school, it took 8 years to appear for the LS examination.

In 1923, the curriculum was revised to bring uniformity in instruction in all middle schools. The compulsory subjects were—Moral Education, English, Language (besides english), Arithmetic including practical Geometry, Indian History, Geography, Nature study and Elementary Science (for boys)/Domestic Economy and needle work (for girls), Drawing and Craft. One optional subject was also taught—Sanskrit/Persian/Hygiene/Agriculture/Sericulture/Craft/Domestic Economy and Needle work/Music.

The subjects of study for the high schools were I language Kannada/Urdu, II language Sanskrit/Persian, Mathematics (Arithmetic, Algebra, and Geometry), Science (Physics, Chemistry, Geology, Botany) and Hygiene, History and Geography. Girls could take Needlework/Music in lieu of Science. A list of authorised textbooks for use in high schools was published every year from 1892-93. In 1937-38, the curriculum, which was revised to suit the needs of the students appearing for the SSLC examination, was as follows:

I Compulsory Group

1. English
2. A II language (Kannada/Tamil/Telugu/Urdu/Sanskrit/Arabic/Persian/French)
3. Elementary Mathematics (Arithmetic, Algebra and Geometry)
4. General Science (Human Physiology, Physics, Chemistry, Biology)
5. History, Civics and Geography

II Optional Group

- A. Humanistic Group: 1. History of England
2. Geography
3. One of the languages
(Kannada/English/Sanskrit/Arabic/Persian/Islamic History/
Indian History/Hindi)
- B. Mathematics and Science Group: 1. Mathematics (Algebra and Geometry)
2. Science (Physics, Chemistry, Biology)
- C. Practical and Arts Group: Agriculture, Sericulture and other crafts
- D. Music and Fine Arts Group

The curriculum was revised in 1959-60 on the basis of the recommendation of the Education Integration Advisory Committee. By 1962-63, all primary schools in the state had a uniform curriculum and syllabus. As per this syllabus, the 3-language formula was followed and Kannada was introduced for non-Kannada students in standards III to VI. Health Education became a part of Science and Moral Education and Physical Education were made compulsory.

Public Examinations

As already stated, a public examination of the children of the Raja's School (High School) in Mysore was conducted by the Maharaja on 18 January 1865. There was no public examination as such at the end of the middle school course till 1876. From 1879-80 till 1890, students from Anglo Vernacular schools were taking the Madras Middle School Examination. An examination supervised by a committee headed by the Director of Public Instruction was conducted for students of vernacular schools from 1887.

The Mysore Lower Secondary Examination instituted in 1891, covered all types of middle schools in the state (English, Vernacular and Sanskrit). Students who passed this examination were eligible for admission to high schools. This examination was made optional for girls from 1938 and abolished altogether from 1954.

From 1962-63, schools conducted their own promotional examinations at the end of the VII standard. But a need was felt for conducting an examination on the lines of a public examination. Therefore, the District Level Common Examination for all the schools in the district at the end of the VII standard was introduced from 1964-65. But this examination was not effective as every district registered more than 90% pass percentage. It was abolished in 2001 when VIII standard was added to the elementary stage.

Establishment of the Examination Board

The Education Commission of 1892 (of British India) had recommended instituting a Secondary School Leaving Examination. The scheme for Mysore was issued in 1912. The Secondary School Leaving Certificate (SSLC) was declared an adequate qualification for entering government service. A Board for awarding a School Leaving Certificate at the end of the secondary course was constituted with the Inspector General of Education as its ex officio President (along with 6 officers of the department) along with a Secretary. The first SSLC examination was held in March 1913.

For a long time up to 1965–66, the SSLC examination continued to be the responsibility of the Director of Public Instruction. He was relieved of this responsibility with the creation of the post of Additional Director of Public Instruction and ex officio Chairman of the Mysore Secondary Education Examination Board by an Act of 1966. At present the Board functions under the chairmanship of the CPI.

Reports of Various Committees

Dr C R Reddy Committee

The Mysore Government constituted a committee headed by Dr C R Reddy, retired Inspector General of Education in Mysore, to suggest educational reforms. This Committee submitted its report in May 1949. It advocated basic education and a 4 + 3 + 3 pattern for school education.

Sri Kengal Hanumanthaiah Committee

The Government then constituted another committee headed by Sri Kengal Hanumanthaiah, with Sri J B Mallaradhy, DPI, as secretary, for reforming the education process. This committee submitted its report in 1953.

The major recommendations were—increasing the primary course to six years, focus on basic education, mother tongue as the medium of instruction at the primary stage, introduction of Kannada for non-Kannada students from the third year, introduction of English from the fifth year of schooling, abolishing the middle school public examination, a separate officer to be in charge of primary education in each district and setting up a Board for primary education.

Education Integration Committee

After integration of the state, the government constituted an “Education Integration Committee” with the object of evolving a common system of education for the entire state. This committee was headed by the Education Minister.

This committee after due deliberations spread over a period of 3 years, made comprehensive recommendations covering all aspects of education like pattern, curriculum, examinations, text books, administration and inspection. These recommendations were implemented in a phased manner from 1959–60 to 1962–63.

Some of the most important recommendations were—an integrated course of 7 years for primary education, reorganisation of the inspectorate and creation of subdivisional posts of Assistant Educational Officers (AEOs), and raising the minimum qualification for recruitment of primary teachers.

Dr Narasimhaiah Committee

In 1985 the government constituted another committee headed by Dr H Narasimhaiah, the former Vice-Chancellor of Bangalore University and a noted educationist. The important recommendations this committee made were—conduct of a district level public examination at the end of the VII standard, no detention policy in I and II standards, decentralisation of functions of the SSLC Board by constituting divisional boards and steps to be taken to prevent malpractices in public examinations.

Task Force-2001

The government constituted a task force on primary education, headed by the noted scientist Dr Raja Ramanna, to suggest measures for qualitative improvement of primary education. Important recommendations of the task force were—

Conversion of primary education cycle from 4 to 5 years, adding class 8 to the elementary cycle, starting of a primary school in habitations where a minimum of 15 school going children are available

and starting of non formal centres for less than 15 children with the cooperation of NGOs, providing transport to children to reach nearest schools, provision of minimum infrastructure to schools, provision of separate toilets for girls and drinking water facilities in schools, completion of 11,000 incomplete school buildings, provision of a minimum of 2 teachers to primary schools with minimum 20 children, removal of economy measures for appointment of teachers, provision of leave reserve teachers, creation of block cadre for primary school teachers, provision of internship in teacher training, appointment of separate English and Science teachers for upper primary classes, provision of hot cooked midday meals rather than supply of only food grains to children of primary schools, developing of school complexes to bridge the gap between primary and high school system, and providing resource support to higher primary teachers.

These recommendations had far-reaching implications and the government implemented most of them.

Collegiate Education

Establishment of Higher Education Institutions in the Nineteenth Century

In the early days, Karnataka could not get the advantage of higher education as it was far away from the university centres of Bombay and Madras. The first ever institution of higher education was the Second Grade College started by the Government of Madras at Mangalore in 1868.

Maharaja's College had been founded at Mysore in 1864, but it became a First Grade College only in 1894. This college was meant for specialisation in Arts subjects. The college was also famous due to its illustrious faculty members such as Dr S Radhakrishnan (philosopher and later, the President of India) and Sri B M Srikantaiah. In 1900, the Maharani's High School at Mysore was upgraded to a Second Grade College.

The Government High school at Bangalore had a college section for which a separate building was opened in 1860. It was upgraded as a firstgrade college in 1870 and named Central College in 1875. The new building for the Central College was officially opened in 1860 and it was principally developed as a centre of excellence in Science. In the 1880-81 BA examination, Mr M Visveswaraya, who later became the Dewan of Mysore, stood sixth the whole of the Madras Presidency. This was a remarkable achievement as there was no Mathematics lecturer in the college.

The first college in the private sector was started at Mangalore (St. Aloysius College) in 1879. Christian organisations entered the field of higher education in the 1880's. During this period, the St. Joseph's College was started in Bangalore. In Mangalore the Carmelite sisters founded the St. Ann's College for women.

Higher Education got a boost in the state in the twentieth century when Mysore University was established in 1916; it was the sixth university to be established in the entire country. At the time of reorganisation of the state (1956), there were 70 colleges affiliated to Mysore/Karnatak Universities. By contrast, the Hyderabad Karnataka area did not have even a single degree college in any district even in 1956 when it merged with the princely Mysore state.

The Directorate of Collegiate Education was established in 1960 to bring uniformity in administration in all colleges of general education in the state.

Establishment of the University of Mysore

The epicenters of higher education in princely Mysore state in the nineteenth century were the Maharaja's College at Mysore and the Central College at Bangalore. Both the colleges were affiliated to the University of Madras. There was a growing feeling that the state with its own language, a complete and independent education system, and with its own educational and political aspirations, must have its own independent university.

Sri Krishna Raja Wodeyar, the benevolent ruler of Mysore, mooted the idea of a separate University of Mysore while Sir M Visveswaraya gave shape to this vision by introducing a bill in the Mysore Legislative Council in June 1916. It received the assent of the Maharaja of Mysore on 22 July 1916. The University of Mysore came into existence on 27 July 1916. In the first year, i.e., 1916–17, only 3 colleges—the Maharaja's College at Mysore, the Central College at Bangalore, and the Maharani's College at Mysore, were affiliated to the University.

The Mysore University Act of 1956 gave the University an autonomous status. A new university campus in Mysore spread over 300 acres of land was established. All postgraduate departments were shifted to this spacious campus. The campus was named as Manasa Gangothri, one of the most beautiful university campuses in the country. The university, which had jurisdiction over the entire princely Mysore state at the time of integration, now has jurisdiction over Mysore, Mandya and Hassan districts.

The university has been credited with 5 stars (1999–2000) and later A+ by the National Assessment and Accreditation Council (NAAC). There is a proposal to upgrade it to a central university.

Establishment of Other Universities

Karnatak University was established in 1950 by the Bombay state. Its jurisdiction is spread over the districts of Dharwar, Uttara Kannada, Belagum and Bijapur. The University introduced PG courses from 1957. It has a beautiful campus on the Chota Mahabaleswar hill covering an area of 365 acres.

The Bangalore University was established through the Bangalore University Act of 1964. The Central College, Bangalore continues to be the nerve centre of the university. The university campus is located at Nagarbhavi and is called Jnana Gangothri.

In 1976, the Karnataka State Universities Act was passed to bring about uniformity of law in all the universities in the state. The Universities of Mangalore and Gulbarga came into existence in 1980. The Mangalore University has jurisdiction over Dakshina Kannada and Kodagu districts, while the Gulbarga University spreads over Gulbarga, Raichur, Bidar and Bellary districts, and the Kuvempu University (1987) over Shimoga, Chitradurga, Chikkamagalore and Davanagere districts. The Kannada University at Hampi was established in 1991 to promote the study of the Kannada language, art and culture. The two Universities of Agriculture Science at Bangalore (1965) and at Dharwar (1986) cater to the needs of agriculture students.

The Manipal Academy of Higher Education was granted the status of deemed university from 1993. There are also other centres of higher learning which have acquired the status of deemed universities—Indian Institute of Science (1911), Indian Institute of Management, Bangalore (1972), Institute for Social and Economic Change, Bangalore (1972) and National Law School of India University, Bangalore (1987).

Educational Administration

At the time of independence, the Director of Public Instruction was the Head of the Department of Education and in charge of all educational institutions in the state. In 1959–60, the post of Director of Technical Education was created and all technical institutions were brought under the control of this directorate. In 1961–62, the Directorate of Collegiate Education came into existence and all government and private colleges (barring Maharaja's College, Mysore; Yuvaraja's College, Mysore; and Government Engineering College, Bangalore; which were university colleges) were brought under the control of this Directorate.

Endowments

A number of endowments have come up from the time of Tippu Sultan and the Maharajas, which provide scholarships to the poor and the needy. The Department of Public Instruction is administering 45 such endowments in the state.

Growth of Professional Education

Technical Education

The imparting of technical education as a part of the educational curriculum made its beginning in the latter half of the nineteenth century, when the first technical institute, an engineering school, was established in 1860 to provide educated subordinates to the Public Works Department (PWD). It was originally started as a branch of the Government High School in Bangalore. This school was preparing candidates for the Assistant Surveyor's Certificate, Assistant Engineers and Overseers tests. It was closed due to lack of strength in 1883–84. In 1899–90, there were 2 government and 4 private industrial schools catering to different trades.

Based on the recommendations of the Visveswaraya Committee,

- (a) Chamarajendra Technical Institute was started at Mysore in 1912–13 which started preparing students in engineering subjects for the Madras Technical Examinations and later the examinations conducted by the newly constituted Technical Board.
- (b) A mechanical engineering school was started at Bangalore in 1914–15 with two sections—the civil engineering section, and the mechanical and electrical engineering section—which was later converted as the Government Engineering College.
- (c) With effect from 1934, students were awarded LME and LEE diplomas. This school was transferred from the education department to the control of University of Mysore in 1939.

The Mysore Government constituted a Council of Technical Education with the DPI also being the ex-officio Director of Technical Education. The post of Director of Technical Education was created in 1959 as the number of polytechnics and engineering colleges grew. Later, a separate University (affiliating all the engineering colleges in the state) called Visveswaraya Technical University (VTU) was established in Belgaum. There are a total of 120 engineering colleges under its wings with an annual intake of 42,000 and a total student strength of 1,50,000 (as per data available for 2006).

Legal Education

The first law college in the state was established under the private sector at Belagaum in 1939 by the Karnataka Law Society. At the time of reorganization, there were 4 law colleges in the state—2 in Princely Mysore and 2 in Bombay Karnatak area. The duration of the course was 2 years, leading to BL degree of Mysore University and LLB of Karnatak University. Including the 2 university law colleges at Bangalore and Dharwar there are 63 law colleges in the state (2006).

The National Law School of India University was established in Bangalore in 1987 with a view to providing a high standard of professional legal education in the country. The University conducts a BA, LLB (Hons.) 5 year integrated course for 10+2 students and a 2 year LLM course for degree students as well as postgraduate and doctoral courses.

Commerce Education

Commerce education began in 1897 when Sri C G Laxminarayana of the Resident's office started commerce classes in the evening in the London Mission School. Bookkeeping, Shorthand, Commercial Geography and Banking were taught and the candidates took the Madras Technical Examinations. Hardwicke Commercial School was opened in Mysore in 1906. The National Union of Teachers, London, decided on Bangalore as a centre of examinations in 1906–07.

The government established 2 commercial schools, one at Bangalore and the other at Mysore. Public examinations in commerce subjects were conducted by the government for the first time in 1913–14. There were 3 grades of examinations—elementary, secondary and advanced. The responsibility for conducting the examinations in commerce subjects was given to the SSLC Board.

After 1931–32, a large number of private commerce institutes came into existence. Some of these institutions received grants from the government. These institutions also prepared students for examinations conducted by the Indian Chamber of Commerce and London Chamber of Commerce. In 1941, a full-time post of Inspector of Commerce Education was created.

A Diploma in Commerce was awarded to candidates passing the senior examination in Accountancy, Law and Practice of Commerce, Banking, Economic Geography, Shorthand and Typewriting. After the reorganization of the state, in 1959–60, the syllabus for commerce education was revised with a view to bringing in uniformity throughout the state.

In 1962–63, the post of Inspector of Commerce Schools was upgraded to class I and designated as Senior Assistant Director of Commerce Education. In 1964–65, the Commerce Education and Examination sections were bifurcated. The examinations conducted by the Commerce Education Board were transferred to the KSEEB. Students appearing for various commerce examinations showed a declining trend during the past decade (1996–2006) due to the starting of a large number of computer education institutes in the state.

Agriculture Education

In 1893–94, Agriculture was introduced as one of the subjects under the optional group for the Lower Secondary examination. In 1913, the government started an Agriculture School at Hebbal with a provision of 15 seats. The purpose of this school was to train sons of land holders for supervising the cultivation of their lands in an efficient manner. There was an entrance test for admission to the school. The course, which was of 2 years duration and mainly practical, was extended to 3 years in 1920 and the minimum qualification for admission was raised to a pass in SSLC. The course was revised in 1937 to include Animal Husbandry. All these institutions were brought under the control of the Director of Agriculture. There are now 2 Agriculture Sciences Universities in the state, at Bangalore and Dharwar.

Medical Education

A Medical School was started in Bangalore in 1881. It provided a 3 year course in the Bangalore Petta Hospital (later designated as the Victoria Hospital), under the control of the Surgeon to the Commission but under the financial control of the Director of Public Instruction. This school was closed in 1886.

Again at Bangalore, a Medical School was started in 1917. The officer in charge of the Victoria Hospital was the Principal of the school. The school awarded the LMP diploma which was recognised all over India. As per a policy decision to have only degree courses in medical education, the Medical School was closed in 1956.

The Medical College started in Bangalore in 1924 was transferred to Mysore in 1930 and later expanded in 1940. In 1955–56, the Mysore Medical Society started the Bangalore Medical College which was later taken over by the government. At the time of reorganisation of the state, there were 4 medical colleges with 1246 students. Later, medical colleges came up in Manipal, Hubli, Bellary, Belgaum and Gulbarga.

Several premier institutions in the medical field have come up in the state over the years—The National Institute of Mental Health and Neuro Sciences (NIMHANS) Bangalore, the All India Institute of Speech and Hearing, Mysore, The Kidwai Memorial Institute of Oncology and the Jayadeva Institute for Cardiology, both at Bangalore.

An Ayurvedic College was started in 1908–09. This college offered a 4 year course and included instruction and practical training in Physiology, Anatomy, Hygiene, Midwifery and Material Medica.

At present, there are 24 medical colleges, 38 dental colleges, 46 pharmacy colleges, 145 nursing colleges, 48 ayurvedic colleges, 10 homoeopathy colleges, 4 unani colleges and 2 naturopathy colleges affiliated to Rajiv Gandhi University of Health Sciences which has been established to regulate health education in the state.

Sanskrit Education

Sanskrit Pathashalas had been in existence from a long time and some were also receiving grants from the state. These pathashalas were being conducted mostly in temples and government grants were their only source of income.

In 1868 there were 2 Sanskrit schools, one in Chintamani and the other at Melkote. All the schools followed the curriculum adopted at Maharaja's Sanskrit College, Mysore and candidates were sent to this college for the annual examinations. Later on, as per the revised curriculum, these pathashalas prepared students for a 3-year course at the end of which they could take up Prathama Examination conducted by the Board of Sanskrit Education. The Board also conducted the Kavya, Champu nataka, Sahitya, Madhyama and Vidwat examinations from 1932. Sanskrit was also taught as an alternative subject both in the high school classes and also as a second language in the Mysore University.

Maharaja's Sanskrit College was started in Mysore in 1876 under the control of the Palace department. The College conducted courses in 9 branches. The Shastra course was divided into 3 grades—Primary (3 years), Secondary (5 years) and College (5 years of Vidwat course). The Veda Course was taught for 14 years.

In Bangalore in 1870, a number of private pathashalas were amalgamated into one pathashala which came under the grant-in-aid code of the government. It was renamed as Chamarajendra Sanskrit College in 1896. The college was transferred to the Muzrai department in 1917 and to the control of DPI in 1924, when it was thrown open to all communities. Sanskrit schools, which were established at Melkote in 1854 and at Siddaganga in 1917, were later raised to the status of Sanskrit colleges.

Physical Education

In the early part of the nineteenth century, physical education was not included in the curricula of regular studies. Nevertheless, sports activities formed an integral part of the calendar of schools and colleges. Whenever buildings were constructed for schools and colleges, provision was made for adequate playgrounds for conducting physical activities for the students. Physical training and drill were also introduced in taluk and hobli schools and these sessions were handled mainly by enthusiastic teachers and local gymnasts.

Among the popular games were cricket and football. Gymnastics was also popular among the students. The Central College, Bangalore, maintained a high standard in cricket, tennis and gymnastics and the college team won several trophies in Madras. The Maharaja's College also had cricket, football, tennis and gymnastics.

Annual Sports competitions were introduced in Bangalore and Mysore from 1875–76. The Dasara Sports was conducted for the first time in 1894 in Mysore and from then on it became a regular annual event. The Bangalore Schools Athletic Association was established in 1910 and sports competitions conducted by it gained popularity.

In 1890–91, the government sanctioned the posts of drill masters to high schools and colleges. When the SSLC curriculum was revised in 1913, attendance in drill classes or participation in games was made obligatory. The revision of SSLC curriculum in 1937 made physical education an integral part of the school course. In 1944 physical education was made compulsory for both boys and girls in all stages of education.

In the first batch of 1917–18, 30 teachers were trained in physical culture during the summer vacation. In 1925–26, Inspectors of Physical Education were appointed in Bangalore and Mysore divisions. These inspectors had the responsibility of organizing physical activities at all levels (primary, middle and high schools) on a sound basis and also hold training classes for drill instructors during summer vacations. The YMCA, Bangalore, was an important physical education training centre for government school teachers.

A sum of Rs 2 was collected from every student in high schools as sports fee and the fund thus collected was managed by a committee with the headmaster as the chairman.

After 1956–57, many steps were taken to give adequate importance to physical education. It became a compulsory subject of study, with the allotment of regular periods in the school timetable. Provision was made for internal assessment. Physical Education also became a compulsory subject in Teacher Training Institutions.

In the beginning, many high schools did not have qualified physical education teachers as there were no institutions offering regular training. Neither was there any approved course of study nor was there a recognised examination. To meet this need, a College of Physical Education was started by the government at Bangalore in 1959–60, offering a one-year Diploma Course in Physical Education for graduates.

Permission was also given to private institutions—the YMCA College of Physical Education, Bangalore, the Beynon Smith Training College, Belgaum, Mallasajana Vyayam Shala, Dharwar and Physical Education Institute at Malladihalli, Chitradurga—to run courses for physical education teachers. These institutions were permitted to offer a Certificate course for non-graduate teachers and a Diploma course for graduate teachers. The government then started deputing teachers to these institutions which were also included under grant-in-aid at a later date.

The Diploma course was converted to a full-time Degree Course (BPED) by the universities which also started Postgraduate MPED courses by and by.

Under the National Discipline Scheme of Government of India, 180 posts of physical education teachers were created in the state. The physical education teacher's post has since become a part of the regular staffing pattern in all government and private secondary schools in the state. These teachers (with BPED qualification) are also eligible to be promoted as Head Teachers of High Schools along with other teachers on the basis of seniority.

Medical Inspection

A scheme for the medical inspection of all students of Mysore University every alternate year was introduced in 1924. In 1925–26, a similar scheme for school children was introduced in high schools and middle schools. This scheme was brought under the control of the education department in 1932–33. In 1938–39, a Chief Medical Inspector was appointed. Full-time medical inspectors were appointed in the districts and important cities.

Education of Special Children

A school for the speech and hearing impaired children was started in 1901 in Mysore as a private initiative by Sri M Srinivasa Rao who was also Deputy Inspector of Schools. The school started receiving grants from the government and various other organisations. It was taken over by the government in 1927 and was named as 'The School for Deaf and Blind Boys'. In 1955–56, there were 55 deaf and 46 blind children studying in the school. Later, a hostel was also attached to it and students were provided free boarding and lodging facilities.

The course of instruction for the deaf extended to 6 years during which training was given in voice production, reading, writing and simple arithmetic. Additionally spinning, weaving, drawing, carpentry and rattan work were also taught.

For blind children, the Braille system of teaching was adopted. The junior course was for 4 years and included Kannada Braille upto Lower Primary Standard, while the senior course was for 3 years. The children were taught music (both vocal and instrumental), mat weaving, book binding and rope making. The school also had a Braille printing department from 1921–22. All the books required for class use were printed by the department in Kannada and Braille scripts.

The Vocational Institute for Women had a section for the deaf where girls were taught reading, writing, speaking and needle work. In 1955–56, blind girls from the Deaf and Blind school were transferred to this section of the institute.

At the time of reorganisation of the state, there were only two special schools—School for the Blind and Deaf at Mysore, and another school for the Blind at Hubli. Gradually the private sector started establishing special schools in different parts of the state—Bangalore, Gulbarga, Hubli. Blind students were permitted to take the SSLC examination by the KSEEB with the help of writers. A scheme of scholarships was also introduced.

Art Education

Drawing and Painting was introduced in the primary school curriculum in 1959–60 and in the secondary curriculum in 1960–61. Drawing was also introduced as a subject of study in the Teacher Training Institutions. In 1975–76, a uniform grant-in-aid code was introduced for drawing schools. The KSEEB used to conduct Art examinations at various levels leading to Certificates in Drawing, Teachers Certificate and Arts Masters Certificates. This function has now been entrusted to the Kannada University at Hampi.

The University College of Fine Arts, Davanagere, affiliated to the Kuvempu University, offers a 5 year course leading to the Bachelor of Fine Arts degree. There are several other premier institutions in the state offering courses in fine arts—the Karnataka Chitrakala Parishat, Bangalore; Chamarajendra Academy of Visual Arts, Mysore; Ideal Fine Arts Institute, Gulbarga; Ken School of Arts, Bangalore; to name a few. The Karnataka Lalitakala Academy has made significant contribution to the promotion of fine arts in the state. It has brought out several master works on art.

Chapter 4

Educational Administration in Karnataka

Educational administration in Karnataka, as in the rest of India, is a legacy of the British rule. In Karnataka, for the past 150 years, it has developed into a highly centralised and complex system of structures and functions. A brief narrative is given below regarding the education structures at the state, district and block levels in Karnataka.

Department of Education

At the secretariat level, the Education Department looks after all aspects of education administration in the state. There are usually 2 ministers of cabinet rank who look after education in the state. One minister looks after the higher education sector consisting of collegiate, technical and university education. Another minister looks after the primary, secondary and pre university education sectors. The departments of public libraries, mass education, vocational education and printing and stationery also come under this minister. Each minister is assisted by a Secretary of senior IAS cadre with a number of additional, deputy and under secretaries.

Agriculture and Medical education are looked after by the respective agriculture and medical education departments and hence are not considered for discussion here.

The Education Secretariat

The education department at the secretariat level is responsible for educational planning, budgeting, policy making and coordinating with other secretariat departments (like planning, finance, law and other related departments) in education matters. It also puts up important matters to the cabinet for consideration and approval in the form of cabinet notes. It also takes care of all legislative matters.

The State Education Department liaises with union ministries like MHRD and other external funding agencies for implementation of education programmes in the state. It releases grants to all the field departments. It decides policy issues, fixes norms and provides broad guidelines for the growth, expansion, consolidation and qualitative improvement of education in the state. It supervises monitoring, evaluation and research work pertaining to the activities of all the field departments under its control. However, it has no executive responsibilities.

At the secretariat level, the Principal Secretary (Higher Education), Education Department, oversees the work of the Department of Higher Education consisting of the field departments of Collegiate Education, Technical Education, Universities and NCC.

The Secretary (Primary and Secondary Education) oversees the work of the following field departments: Department of Public Instruction, Sarva Shiksha Abhiyan, Pre university Education, Mass Education, Vocational Education, Public Libraries, Printing and Stationery.

Collaborative Departments

Some of the education support structures are handled by other departments. The Department of Backward Classes and Minorities (BCM) looks after hostels for BCM students. The Department of Social Welfare is in charge of pre-metric scholarships for SC/ST students, SC/ST hostels, ashram schools for tribal children,

and rehabilitation and relief of physically handicapped. The Department of Women and Child Development is responsible for Anganawadi Centres (AWCs) for children of 3–6 years under the ICDS.

The Department of Rural Development and Panchayat Raj is responsible for creating and maintaining infrastructure—school buildings, water supply and toilets. All the district and block level officers of the Department of Public Instruction function under the administrative control of ZPs, TPs and other local bodies which are also under the control of the Department of Rural Development and Panchayat Raj. The Urban Development Department controls municipal corporations and other town municipalities which also run schools and colleges.

Department of Public Instruction

The Commissioner of Public Instruction (CPI) is the Head of the Department of Public Instruction and is assisted by a number of directors. The CPI controls, guides, supervises and coordinates all aspects of school education in the state. All stages of education starting from pre-primary education to secondary education, pre-service and in-service teacher training institutions, Sanskrit education, Hindi, Commerce, Music, Dance, Drawing, Physical Education and Arabic Education come under the purview of the CPI.

The posts of Additional Commissioners of Public Instruction were established at Gulbarga and Dharwar in 2003–04 for effective decentralisation of administration. These additional commissioners are each assisted by a director, 2 joint directors and a number of academic and administrative staff.

Role of Directors

Under the Commissioner at Bangalore, there is a Director of Public Instruction (DPI) for each one of the following sub sectors – Primary Education, Secondary Education, Minorities Education, DSERT, SSLC Examination and Other Examinations.

The Karnataka Textbook Society headed by a Managing Director also comes under the purview of the CPI. These state level officers are assisted by a number of joint, deputy and assistant directors in the discharge of their functions and duties.

Division level Administrative Structures

At the division level (Bangalore, Mysore, Belgaum and Gulbarga), there are joint directors who also work as ex officio secretaries of the Examination Board. Recently (in 2007), the offices of the Joint Directors of Bangalore, Belgaum and Gulbarga were amalgamated with the offices of the Commissioners at Bangalore, Dharwar and Gulbarga respectively. The Divisional Joint Director of Public Instruction was also the recruiting authority for the secondary school teachers in his division.

District and Block Level Educational Structures

As already stated, there are 33 educational districts and 202 educational blocks in the state. Each educational district is headed by a Deputy Director (DDPI). He is assisted by a number of educational officers and 6 subject inspectors (for Kannada, English, Physical Science, Biological Science, Social Studies and Physical Education) who are required to monitor quality improvement especially in secondary schools.

Each educational block is headed by a Block Educational Officer (BEO) who is in charge of both primary and secondary education in his block. He is assisted by education coordinators. These coordinators are selected from among the head teachers of Higher Primary Schools and provide administrative support services to the BEO. These DDPIs and BEOs are also directly under the control of the ZPs and TPs respectively, for all administrative purposes.

The DDPI is not only the recruiting authority for primary school teachers in his district but also the appointing/disciplinary authority for secondary school teachers in his district. The appointing and disciplinary authorities for primary school teachers are the BEOs.

Academic Structures—DIETs and BRCs

The academic support structures at the district level are the District Institutes of Education and Training popularly known as the DIETs. The major functions of these DIETs are pre-service and in-service training of elementary teachers. At the block level there are Block Resource Centres (BRCs) catering to the academic needs of the elementary schools. No such academic structures exist for secondary schools either at the district level or the block level.

The Cluster Resource Coordinator (CRC selected from among primary school teachers) at the cluster (15–20 schools) level is expected to follow up the teacher training in schools and monitor its impact on improving classroom learning. For enhancing learning outcomes, both administrative and academic structures are expected to provide monitoring, supervision and evaluation support. The CRCs are also expected to conduct monthly meetings of teachers which are academic in nature.

School Level Administrative Structures

SDMCs* are expected to provide supervisory and managerial support at the school level. There are also structures of school complexes which are largely dysfunctional for various reasons.

Sarva Shiksha Abhiyan (SSA)

SSA has a separate structure whose activities are undertaken in mission mode. The state unit is headed by the State Project Director (SPD) and he is assisted by a director, 2 joint directors and other academic and administrative staff. At the district level, the SSA unit is headed by the DDPI who is also designated as the District Project Coordinator. The DDPI is assisted by a Deputy Project Coordinator and other staff.

Cadre Strength of the Department

In 2006, the cadre strength in each one of the cadres in the Department of Public Instruction was as follows:

1. Commissioner of Public Instruction—1 (IAS cadre)
2. Additional Commissioners of Public Instruction—2 (IAS cadre)
3. State Project Director —1 (IAS cadre)
4. Directors of Public Instruction—10 (Heads of Departments)
5. Joint Directors—18
6. Deputy Directors— 92
7. Block Education Officers (Class I)—620
8. Heads of High Schools/ Assistant Directors (Class II)—4414
(Details of cadre strength given in Table CR 1)

Monitoring

The department monitors the performance at various levels in terms of various qualitative and quantitative educational indicators like access, enrolment, retention, completion rates, dropouts, performance of students in assessment surveys and pass rates in public examinations.

Common Entrance Test (CET) Cell

This cell works under the jurisdiction of the Higher Education Department of the secretariat. It conducts the entrance examination for professional courses, declares the results, organises counselling sessions for students in order to provide opportunities in professional education, keeping in mind the reservation policy and availability of seats in government, aided and self-financing colleges in medicine, engineering, dentistry, pharmacy, paramedical and other courses. The Cell has been renamed as "Karnataka Examination Authority" recently.

*Source: School Development and Monitoring Committee

Central Admission Cell (CAC)

In 1994–95, the state government took a policy decision to have control over the admission process in government, aided and unaided teacher training institutions covering DEd and BEd courses, to enable merit and roster candidates to secure admission through a common admission procedure every year. Similarly, the recruitment process of primary and secondary teachers has been computerised and is done through the CAC.

Shikshana Varthe

The Department of Public Instruction has been publishing this monthly journal for the past several years to provide information useful to teachers. A copy of the journal is made available to every school. It contains reports, articles by educationists and teachers, important government orders, administrative circulars, information about innovations in teaching practices, achievements of schools, teachers and students. The expenditure on publication and distribution of this monthly is now met by SSA.

The State Education Library

An educational library was started in the office of the DPI in 1891–92. It was accorded an independent status in 1958 with a qualified librarian, and was expanded in subsequent years. It is located in its own building in Seshadripuram, Bangalore. It is exclusively meant for use by school teachers and students.

Even though it was renamed as 'SERIC' (State Educational Resource and Information Centre), funds were always a constraint in running of this library. Government in its order dated 27/2/2007 transferred the management of this library and converted it into a wing of DSERT in order to expand its activities to suit the needs of teachers and students.

Policy Planning Unit (PPU)

The Policy Planning Unit was established as a "think-tank" in 2002–03 in collaboration with the Azim Premji Foundation (APF). The World Bank offered it an IDF grant of \$485,000, with a mandate to support the Department of Public Instruction in building capacities for planning, programming and innovation in the education sector.

Its functions include macro-planning at the state level and micro-planning at district, block and habitation levels. It is responsible for planning new programmes, evaluating departmental programmes, providing technical assistance, strengthening public expenditure management, and improving MIS for monitoring results and outcomes.

The unit contributes towards building capacities under three broad areas:

- **Administrative and Technical Capability:** The unit supports the state education administrative wing in building up capacities for planning and administration in the education department. Thus, it analyses the present education policy with a view to bringing about an efficient framework for the future.
- **Academic Capability:** All issues pertaining to academic improvement and all-round development of the child are covered.
- **Social/Community Mobilisation Capability:** Since there is an increasing thrust on engaging communities in the schooling process more effectively, the PPU looks at ways and means of social mobilisation.

PPU enjoys an autonomous status under the overall administrative control of the CPI and consists of specialists from different disciplines related to education sector. The staff consists of hand-picked officers from the Education Department as well as senior researchers from APF.

It has taken up IT training of all department officers. Recently, it commissioned a study for restructuring of the Department of Public Instruction through Price Water House Coopers. Through "Karnataka Schools

towards Quality Education" (KSQE), it has also done pioneering work to bring about an attitudinal change and transformation of the department.

PPU has coordinated in evaluating the following departmental programs -

- (a) Working of SDMCs
- (b) Mahiti Sindhu—Computer Education Program in High Schools
- (c) Distribution of Free Textbooks
- (d) Working of DIETs and CTEs
- (e) Study of trimester system in the state
- (f) Akshara Dasoha Programme
- (g) Accelerated Reading Programme in collaboration with Bangalore urban DIET

The unit has also undertaken the following tasks:

1. Collaborated in the preparation of Teacher Education Perspective Plan
2. Coordinated the re-engineering study of the department conducted by Price Water House Coopers
3. Study of school dropouts

In 2006, the PPU was shifted from DSERT to the office of the CPI. The efficacy of the unit in achieving its objectives is yet to be evaluated by an external agency.

Procedure for Recruitment of Teachers

Government Primary School Teachers

Earlier, primary school teachers belonged to district cadre and were recruited by the DDPI. The list of eligible candidates was obtained from the employment exchanges and a merit list was prepared by giving weightage to marks obtained in SSLC/PUC and TCH examinations. Based on merit and reservation criteria for various groups, a provisional list was prepared and notified. After taking into consideration, objections filed by aggrieved candidates, the final list was published. Recruitment was made on the basis of the final list through counselling wherein the candidates could select vacancies of their choice.

With CAC coming into being, the candidates are required to attend a CET conducted by it and a merit list is prepared by giving due weightage to the marks obtained in the test, as well as marks obtained in SSLC/PUC and D Ed examinations. After selection, the candidates go through computerised counselling at the district level in which they select a vacancy from among those available. Appointment orders are then issued by the BEO. From 2001, the primary school teachers have been shifted to the block cadre from district cadre with the BEO as the Appointing and Recruiting Authority.

Recruitment of Teachers in High Schools

The appointing authority in respect of secondary school teachers was the Divisional Joint Director as the secondary school teachers' cadre was a divisional one. From 2003, it was converted to the district cadre with the DDPI as the appointing authority.

The candidates are selected through a written CET. The merit list is prepared by giving due weightage to the marks obtained in the CET along with marks obtained in the Degree and B Ed examinations (CET 70%, Degree 20%, and B Ed 10%). The computerised counselling is still done at the divisional level where the candidates select vacancies and get appointment orders from the respective DDPIs.

Karnataka Secondary Education Examination Board (KSEEB)

This Board is an autonomous statutory body established under an Act of the State Legislature in 1966. The CPI is the exofficio Chairman of the Board. The Board has 21 members. There are two directors in the

Board—One looks after the X standard (SSLC) public examination while the other looks after the following 17 examinations conducted by the Board:

1. Diploma in Education 2. Pre-Primary Teacher's Certificate 3. Diploma in Physical Education 4. Commerce Examinations 5. Drawing Examinations Higher 6. Drawing Examinations Lower 7. Language Examinations 8. Junior Technical Examinations 9. Hindi B.Ed. Course 10. Sanskrit Examinations 11. Karnataka and Hindustani Music 12. Talawadya 13. Bharatanatyam 14. Kathakhali 15. Film Acting and Background Music 16. Drama 17. NTS Examination for VII Std children.

Computerisation of the education department was taken up in phases at all levels. The earliest office to be computerised was the KSEEB with an in-house computer centre established in 1984. In 1986, IBM card punching machines were replaced with floppy based machines. Computerisation has helped the Board to publish results of various examinations in quick time. The announcement of SSLC results on the internet from April 1999 has helped students in remote areas access the results as fast as their urban counterparts.

Implementation of Right to Information Act 2005

Under the Act, 53,556 authorities have been set up in the Department of Public Instruction all over the state. The following table gives the number of applications received and settled since the Act came into force:

Table 4.1

<i>Year</i>	<i>Applications Received</i>	<i>Applications Settled</i>	<i>Balance</i>
2005-06	137	123	14
2006-07	380	358	22

Source: Annual Report 2006-07

Teachers' Benefit Fund and Students' Welfare Fund

The National Foundation for Teachers' Welfare

The National Foundation for Teachers' Welfare was set up in 1962 by the GOI with the object of providing relief through financial assistance to teachers and their dependents. Contribution for this fund is raised through sale of token flags on the eve of Teachers' Day (the birth anniversary of Dr. S Radhakrishnan, the former President of India, who was a great philosopher and a well known teacher). These collections are remitted to the GOI but the state gets back 80% of the same. Assistance for medical treatment is given to teachers and their dependents, based on the intensity of illness. During 2005-06, medical assistance to the tune of Rs 105.38 lakhs was given to 3600 teachers under this scheme. 16,848 teachers were beneficiaries of assistance amounting to Rs 86.11 lakhs given for higher education of their children. Financial assistance is also given to the families of deceased teachers and Rs 10.52 lakhs were spent on this scheme.

The GOK also established the Teachers' Benefit Fund (TBF) and Students' Welfare Fund (SWF) to promote the welfare of teachers and students. Contributions to these funds are collected from students of high schools and colleges. Similarly, life membership is also collected from teachers of all cadres. These funds are administered by a state level working committee with the education minister as Chairman and the CPI as Secretary/Treasurer. A separate office for administering these funds was set up in 1962. The system of giving state awards for primary and secondary teachers on Teachers' Day was started in 1962-63.

Table 4.2
Contributions Collected During the Year 2005-06

National Foundation for Teachers' Welfare	Rs 168.02 lakhs
Karnataka State Students' Welfare Fund	Rs 244.00 lakhs
Karnataka State Teachers' Benefit Fund	Rs 128.52 lakhs

Source: TBF/SWF 2006

Karnataka State Students' Welfare Fund

This fund encourages meritorious students and schools with 100% results in the SSLC public examination with cash awards. Students who pass the state level NTS examination but are unsuccessful at the national level are given a scholarship of Rs 2000 p.a.

In order to provide relief to students (in classes I to X) in case of accidents, the fund along with the Oriental Insurance Co. has organised the "Students Safety Insurance Scheme". Under the scheme, all students are insured at the rate of Rs 1/- per student. In 2005-06, the families of 874 students benefited under the scheme.

The fund awards students who secure the first three places in state level sports competitions and provides financial assistance to those who compete at the national level. The fund supports Scouts and Guides and the Sevadal movements. Aid is also given for book banks and towards payment of fees for poor students.

Karnataka State Teachers' Benefit Fund

The TBF gives financial support for construction of Gurubhavans at the taluk level (Rs 3 lakhs) and at district level (Rs 6 lakhs). It also awards merit scholarships to children of teachers. Best Teachers' Awards are given from the fund at the block, district and state levels. The fund also supports literary activities of teachers. Through the "Safety Insurance Scheme" which is in collaboration with the Oriental Insurance Co., all primary and secondary teachers are covered in case of accidental death or injury. The fund also finances Teachers' Day celebrations at the block and district levels.

Growth of Administration of Education in Karnataka

A historical perspective of administration of education is essential to understand how the department responded to the rapid growth of educational institutions in the state.

Even though schools with the modern system of education came into existence in as early as 1833 in princely Mysore state, an organised system of administration of education started only from 1857, with the scheme of education introduced by the British administrators. It grew steadily and systematically during the next hundred years from 1857 to 1956. This was the result of the keen interest evinced by the successive Maharajas of Mysore and visionaries like Sir M Visveswaraya, Mr L Rice, Dr C R Reddy and Prof. N S Subba Rao. In 1857, there were only a handful of educational institutions in the state whereas by 1956 there were an impressive 13,000 educational institutions in the princely Mysore state.

This remarkable achievement bestowed upon Karnataka the status of a model state in the country. However, this achievement has been overshadowed by an unprecedented growth of education institutions in the state since 1956. By 2006 the state recorded the existence of more than 66,000 educational institutions excluding balwadis and anganawadis (Table 2.1). This phenomenal growth necessitated a comparative expansion of educational administration in the state which is chronicled below.

Evolution of the Department of Public Instruction in the Nineteenth Century

In 1857, under the scheme for the establishment of the Department of Education in Mysore, the following posts were created:

1. A Director of Public Instruction as the Head of the Department
2. 2 Inspectors of Schools—to provide an overall superintending force
3. 4 Deputy Directors—one for each division
4. 20 Sub Deputy Inspectors—one for every 4 taluks

The first DPI was Captain Stephens of the Mysore Commission. At the same time, the department was placed under the overall supervision of the Judicial Commissioner of Mysore. In 1865, Mr L Rice, who was the Principal of the Government High School, Bangalore, was promoted as Inspector of Schools. Later he officiated as the Director of Public Instruction from 1868–69 and continued to be Head of the Department till 1890.

Since there were two posts of Inspectors of Schools, the state was divided into two circles—Circle I consisting of the districts of Bangalore, Kolar, Mysore and Hassan; Circle II consisting of Shimoga, Kadur, Chitradurga and Tumkur districts. In 1868–69, when the Hobli school scheme was introduced, the Inspectorate was strengthened by the appointment of 8 Sub Deputy Inspectors, one for each of the 8 districts. They were required to visit every hobli school three times a year for inspection and report fully their condition. For this purpose, they classified the schools on a 5-point scale as very good, good, fair, bad, and very bad.

With the increase in the number of schools, the Inspectorate was reorganised in 1872–73. An additional Headquarters Circle was created under the Director of Public Instruction as Inspector General, with office at Bangalore. The Mysore province was evenly distributed between the Inspectors of the two circles with headquarters at Mysore and Shimoga. In 1879 another round of reorganisation took place. The 2 posts of Inspectors of Schools were abolished. Five circles were created with a Deputy Inspector in charge of each circle.

1. South Circle, Mysore—Mysore and Hassan districts (Later Hassan district was attached to the West Circle).
2. East Circle, Kolar—Bangalore and Kolar districts except Bangalore town and Cantonment.
3. West Circle, Shimoga—Shimoga and Kadur districts.
4. North Circle, Tumkur—Tumkur and Chitradurga districts.
5. Bangalore Circle—Bangalore town and Cantonment.

The Deputy Inspectors were required to visit every government school twice a year. They were expected to equip themselves with horses so that they could cover all parts of the circle comfortably. The Deputy Inspectors were assigned three grades 150–200, 100–150, 75–100. The average number of schools that each Deputy Inspector had to inspect was 43. They were required to be on tour for 18 days in a month. In 1881 the designation of Director of Public Instruction was changed to Secretary to Government, Education Department. In 1890, Mr H J Bhaba who was the Principal of Maharaja's College, Mysore, took over as Secretary of the Education Department from Mr L Rice.

In 1891, another round of reorganisation of the department took place. The province was divided into 8 educational circles corresponding to the 8 revenue districts. The officers were given assistance of peons and clerks. The official year was changed from April–March to July–June. In 1895, the post of Education Secretary was abolished and Mr H J Bhaba was designated as Inspector General of Education. The Education Department was attached to the Secretary to Government, Revenue Department.

The structure of the Department in 1900 was

1. Inspector General of Education (Grade 700–50–1000)
2. One Superintendent of government girls schools
3. 8 Deputy Inspectors of schools (Jurisdiction–Districts)
4. 4 Assistant Deputy Inspectors

The department was reorganised again in 1906–07. The state was divided into two circles. While the East Circle consisted of Bangalore, Kolar, Tumkur and Chitradurga districts, West Circle comprised of Mysore, Hassan, Shimoga and Kadur districts. Each of these circles was placed in the charge of an officer who was designated as "Circle Inspector of Schools". The Circle Inspector supervised the work of his subordinate offices and conducted inspection of schools in his jurisdiction. With the increase in the number of primary schools, 11 Assistant Inspectors including 2 Urdu Inspectors and 20 Educational Supervisors were appointed in 1915–16.

Reorganisation of the Department in 1927

There was a total reorganisation of the Inspectorate in 1927. The post of the Inspector General of Education was redesignated as Director of Public Instruction. As the Education Department was one with a large expenditure, financial branch headed by an Assistant Controller (designated as Financial Assistant) was set up in the Director's office.

One Deputy Director for each division was appointed to exercise total administrative control over all the institutions in the division. The Mysore division included districts of Mysore, Tumkur, Chitradurga and Hassan. The Mysore district was bifurcated in 1939 into Mandya and Mysore districts. The Bangalore division included districts of Bangalore, Kolar, Shimoga and Kadur. The Bangalore district was later bifurcated into Bangalore City and Bangalore District. A third Deputy Director's post was created to assist the Director in administrative matters.

Each district was in charge of a District Educational Officer (DEO). The DEO had control over all institutions within the district except high schools which were placed under the control of Divisional Deputy Directors. A full-time Inspector of Commercial Schools was created for inspection of all aided commercial schools. He was also the Secretary of the Commercial Examination Board.

A post of Deputy Director of Elementary Education was created in 1941. The jurisdiction of Range Officers (Assistant Inspectors) was distributed so as to ensure even distribution of schools under every Assistant Inspector. The number of ranges was increased to 68 (57 Kannada and 11 Urdu). These Assistant Inspectors were directly responsible to the DEOs who acted as Elementary Education Officers in their respective districts.

The Administration of Education During 1944–56

Three posts of Deputy Directors—one for each stage of education—Primary schools, Middle schools and High schools—were created in the Director's office. High schools were brought under the control of DEOs. A post of Personal Assistant to the Director was created. The schools in the civil area of Bangalore were placed under the control of the DEO, Bangalore City. The Taluk Inspector of Schools was given a regular office with a suitable establishment. He was empowered to countersign all bills relating to government schools and grant-in-aid bills of aided schools. The power of sanction of grants, however, vested with the DEOs.

An audio visual section was created in the office of the Director in 1953 with the object of developing audio visual education in the state. The Director of Physical Education working in the civil station was redesignated as Superintendent of Physical Education and attached to the office of the Director. At the time of reorganisation of the state on 1 November 1956, the set-up of Educational Administration was as follows:

1. The Director of Public Instruction with control over all branches of education including technical education, but excluding colleges affiliated to the University of Mysore
2. Deputy Director of Public Instruction (Headquarters)
3. First Assistant to DPI (Class I)
4. Secretary, Secondary Education Examination Board
5. Assistant Secretary Examination Board (Class II)

6. Assistant Secretary, Textbook Committee (Class II)
7. Personal Assistant to DPI (Class II)
8. Inspectors of Commercial Schools (Class II)
9. Special Officer, Audio Visual Education (Class II)
10. Accounts Assistant (drawn from State Accounts Department)
11. Land Acquisition Officer (for Bhoodan Movement)
12. Chief Medical Inspector of Schools and 2 Medical Inspectors (drawn from the Medical Department)
13. Inspector of Sanskrit Schools
14. Superintendent of Practical Examination
15. Superintendent of Physical Education
16. Agriculture Inspector

In addition, the following posts existed in the divisions and the districts:

1. Three Divisional DDPIs, one for each division, with headquarters at Bangalore, Mysore and Chitradurga.
2. Eleven DEOs (one for each of the 11 districts which included the newly added Bellary district from the former Madras state).
3. 117 (100 Kannada and 17 Urdu) Inspectors of Schools—approximately one per taluk, who were in charge of primary schools.

Integration of the Department after the State's Reorganisation

The new state of Mysore came into existence through the merger of nine Kannada speaking areas (as already stated in Chapter I) with the then princely state of Mysore. These different regions had different administrative set-ups and different patterns of education. With the object of bringing uniformity in administration and evolving a common pattern of education for the entire state, the Government constituted a high level committee called the Education Integration Advisory Committee with the Minister for Education as its Chairman.

This committee, after due deliberations spread over a period of 3 years, made comprehensive recommendations covering all aspects of education like pattern, curriculum, examinations, textbooks, administration and inspection. These recommendations were implemented in a phased manner. Several important changes were made in the system of administration and supervision of the department. The DPI who was also in charge of Collegiate Education, Technical Education and Libraries, was relieved of these additional responsibilities with the creation of the posts of the Director of Technical Education (in 1959), Director of Collegiate Education (in 1961), State Librarian (in 1966) and the Director of Pre University Education (1971) respectively. The post of the State Librarian was later redesignated as Director of Public Libraries.

Consequent to the implementation of the Compulsory Primary Education Act of 1961, 34 subdivisional offices headed by a class II AEO were created. At the taluk level, provision was made for a graduate Inspector of Schools assisted by one or more deputy inspectors drawn from the cadre of middle school teachers. To assist the DEOs at the district level, one post of District Inspector of Physical Education was created in every district. In 1971-72, the administrative structure was further expanded by creating the post of a class II AEO, for each taluk, assisted by one or more graduate inspectors of schools. The posts of deputy inspectors were abolished. The post of a separate Director for Primary Education was created in 1973-74.

Creation of Additional Posts and Units

With the expansion of the department, the following posts were created in the Directors' office at Bangalore for the supervision of education in specific areas.

1. Senior Assistant Director for Home Science
2. Assistant Director for Hindi Education
3. Assistant Director for Technical Education
4. Superintendent of Music Education

The following additional units and sections were also established between 1956-57 and 1965-66.

1. State Educational Research Bureau in 1958-59
2. State Bureau of Educational and Vocational Guidance in 1959-60
3. State Evaluation Unit in 1963-64
4. State Institute of Education at Dharwar in 1963-64
5. State Institute of Science in 1964-65
6. Educational Survey Unit in 1965 - 66

Special Officer for School Reorganisation

In order to implement the major recommendations of the Education Commission of 1964, the state appointed a special officer for school reorganisation in 1968-69 for a period of 4 years. He submitted a large number of proposals to the government for consideration. The most important of them were the introduction of work experience in schools, 2-year PUC and a syllabus without electives for high schools.

Subject Inspectors

The posts of Subject Inspectors were created in 1965 and were originally attached to the offices of 5 Divisional Deputy Directors. During the reorganisation of the department in 1970, 6 posts of Subject Inspectors were created in every district, one each for Kannada, English, Physical Science and Mathematics, Social Science, Biological Science and Physical Education. They were meant to conduct panel inspection of high schools in their districts. Subsequently, a post of Subject Inspector for "Crafts" has also been created in each district.

Examinations

In 1919, to facilitate better supervision and control in the conduct of examinations, the offices of Local Examinations and SSLC Examination were amalgamated under a Secretary, Local Examination Board and treated as a branch of the office of the Inspector General of Education. In 1941, the designation of the Secretary, Local Examination Board was changed to Secretary, Secondary Examination Board. The DPI was in overall charge of all examinations conducted by this Board.

Over a period of time, the number of candidates appearing for the examinations increased along with the number of examinations and there was an urgent need to reorganise the examination branch. In 1957-58, the DPI was designated as the exofficio Commissioner of Examinations. He was assisted by a Deputy Director (senior class I), 2 senior Assistant Directors (Class I) and 8 Assistant Directors. In 1966-67, a separate post of Additional Director (Examinations) was created and he was made Chairman of the Karnataka Secondary Education Examination Board (KSEEB) which had been reconstituted under the MSEE Act 1966. To assist the Chairman, a post of Joint Director (Examinations) was created who was designated as the Secretary of the Board.

The Administrative Set-up in 1968

In 1968, the following was the administrative set-up of the Department, besides 13 officers in the Examination wing of the department.

1. One Director of Public Instruction (DPI)
2. Three Joint Directors (JDPI - Administration, Secondary Education and Primary Education)
3. Five Deputy Directors (DDPI - Planning, Girls Education, State Institute of Science, State Educational Research Bureau, State Evaluation Unit)
4. Ten Senior Assistant Directors (SADPI - Secondary Education, Primary Education, Home Science, Guidance, Textbooks, Survey, etc.)
5. Twenty six Assistant Directors (ADPI - Primary Education, Hindi, State Educational Library, Planning, Compulsory Primary Education, Teacher Education, Technical Education, Commerce Education, Physical Education, Audio Visual Education, Evaluation, Textbooks, Educational Research Bureau, Guidance, Survey, Statistics, Social Education, etc.)
6. One Financial Assistant and 2 Accounts Officers
7. One Senior Agricultural Officer
8. One Chief Medical Inspector and 2 Medical Inspectors

Along with the 3 posts of Divisional Deputy Directors at Mysore, Bangalore and Chitradurga, 2 more posts of Divisional Deputy Directors were created at Dharwar and Gulbarga.

Reorganisation of the Department in 1970-71

In view of the expansion of education at all levels and a tremendous increase in the number of schools and other educational institutions, there was need for further reorganisation of the department. To improve efficiency of school inspection and the administrative efficiency of the education department, another major reorganisation of the department took place in 1970-71 which is shown below:

1. Two more posts of Joint Directors were created in the DPI's office at Bangalore.
2. The Educational Divisions were reduced to 4 to correspond with revenue divisions and the posts of Divisional Deputy Directors were upgraded to Divisional Joint Directors located at Bangalore, Mysore, Belagaum and Gulbarga.
3. The posts of district DEOs were upgraded to that of DDPIs. There were 21 such DDPIs in the state.
4. 25 posts of Education Officers (EO-class I) were created in the offices of Divisional Joint Directors and District Deputy Directors for inspection of high schools. Each district had 2-3 EOs depending on the number of high schools in the district.
5. 194 posts of Inspectors of Schools at taluk level were upgraded to that of AEOs and each taluk was headed by an AEO who was a class II officer.
6. 401 posts of Graduate Inspectors (non gazetted) were created to assist the AEOs in the inspection of primary schools in the taluks.
7. 21 posts of District Superintendents of Physical Education were created for effective supervision of physical education in high schools.
8. The designation of Superintendent of Physical Education in the office of the DPI was changed to that of State Superintendent of Physical Education, and in addition, 4 posts of Divisional Superintendents of Physical Education were sanctioned.

Subsequent Changes

1. The post of State Superintendent of Physical Education was further upgraded and designated as Deputy Director (DDPI-Physical Education).

2. In addition to the post of Assistant Director of Hindi in the DPI's office, 4 posts of Subject Inspectors in Hindi were created in the offices of the Divisional Joint Directors to improve the quality of Hindi education.
3. Similarly, posts of Subject Inspectors for Art Education, Commerce Education, and Sanskrit Education were created in the offices of the Divisional Joint Directors.
4. A separate post of Director, Urdu and Minorities was created in the office of the CPI in 1987.
5. All the academic units were merged in 1975 to form the Department of State Education and Training (DSERT) with a Director as head.
6. In 1993, the 6 Colleges of Education were upgraded to Colleges of Teacher Education (CTE) and the posts of principals were upgraded to that of Joint Directors. Each college had 3 posts of Readers in the grade of Deputy Directors.
7. In 1993, one District Institute of Education and Training (DIET) was created in each district with the Principal of the Institute in the rank of a Deputy Director.
8. The posts of Taluk Assistant Education Officers (AEO—class II) were upgraded to that of Block Education Officers (BEOs—class I) and given control of all government, aided and unaided primary and secondary schools in the block.

Creation of the Post of Commissioner of Public Instruction (CPI)

In 1979–80, the post of DPI was kept in abeyance, a new post of Commissioner of Public Instruction was created and the department was reorganised once more. The first Commissioner was Sri Syed Basheer Ahmed, who had been selected for IAS after a long period of service in the Department of Public Instruction.

Among the notable CPIs who contributed to the efficient administration of the department in recent times, the following IAS officers with a vision merit mention: Sri S V Ranganath, Sri Sanjay Kaul and Sri T M Vijay Bhaskar. All these also officers later served as Secretaries to Government in the Primary and Secondary Education Department. During their period many notable reforms were introduced in the field of primary and secondary education.

Academic Wings of the Department

1. State Educational Research Bureau (ERB)

After the reorganisation of the state, the need for a uniform curriculum and textbooks was keenly felt and hence the State ERB was established in 1958–59. The objective of the Bureau was improving curriculum, preparing textbooks and guidebooks, and taking up research projects of an academic nature. It prepared a uniform curriculum and syllabi in all subjects for I to X standard as well as the Teachers' Certificate Courses. All textbooks in all subjects and in all languages were prepared by the Bureau after nationalisation of textbooks. For the printing of these textbooks, a Government Textbook Press was set up in Mysore. Teachers' Guides were also prepared by the Bureau from time to time.

2. State Bureau of Educational and Vocational Guidance (EVG)

Established in 1959–60, the bureau was engaged in giving students guidance through the appointment of counsellors and career masters in schools and providing training to them. The Bureau also developed the Scholastic Abilities Test and standardised the General Intelligence Tests. It published booklets on career guidance for the information of students.

3. State Institute of Science (SIS)

The SIS was established in 1964–65 for the improvement of Science teaching in secondary and primary schools of the state. The UNICEF-assisted Science Education Programme was implemented through the

SIS between 1970 and 1982 in 1530 higher primary schools and 3150 lower primary schools by providing science kits.

Textbooks and teachers' guidebooks prepared by NCERT were adopted and translated into Kannada. They were printed and supplied to all schools covered under the programme free of cost.

The SIS also equipped 51 key B Ed Colleges and TTIs in science teaching. It trained more than 10,000 high school science teachers and 20,000 primary school teachers during the period of its existence.

4. State Institution of Education (SIE)

The SIE was started in the northern district town of Dharwar in 1964. Later, it was shifted to Bangalore to form the nucleus of the DSERT. It concentrated on improvement of quality in primary education through enhancing the professional competence of teachers and inspectorial staff. The Institute was involved with the primary TTIs in the state and ran extension centres for the benefit of teachers.

5. State Evaluation Unit (SEU)

The SEU was established in 1963–64 with the objective of improving teaching and testing procedures through education evaluation concepts and techniques. It organised workshops for teachers and Head teachers to orient them in evaluation techniques. It brought out booklets with model question papers along with blueprints for the benefit of teachers and students. It also oriented the inspection staff in the evaluation concepts and methods. It also analysed the annual results of the SSLC public examinations and VII standard district level examinations.

Karnataka Textbook Society (Reg.)

The nationalisation of textbooks necessitated the creation of the post of Director of Textbooks in 1969–70. He was also in charge of literacy and cultural development. In 1978–79, the post of Director of Textbooks was kept in abeyance and the Directorate of Textbooks was attached to the DSERT.

In 2006, the Directorate of Textbooks was separated from DSERT and the Karnataka Textbook Society was created to bring all aspects of textbook production—text book writing, type setting, printing and distribution—under one authority. The Society was registered on 12 May 2006.

Pre School Education in Karnataka

The Global Framework for Education for All (EFA - Dakar 2000) emphasises that “expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children” is the first goal of EFA.

The NPE 1986 explicitly spoke of Early Childhood Care and Education (ECCE), emphasising the need to invest in the development of the young child. ECCE was conceived as a feeder programme to strengthen primary education as also a human resource development programme. Though the NPE 1986 gave a good deal of importance to Pre School Education (PSE), responsibility for it still remained with the Integrated Child Development Services (ICDS) Scheme.

The Acharya Ramamurthy Committee of 1990 emphasised that the constitutional directive of providing free and compulsory education for all children up to 14 years of age should include ECCE. The committee also recommended programme-related and physical linkages with the primary education system.

The sub sector study report on Early Childhood Education in Karnataka notes, “In the face of an ongoing situation of scarce resources, increasing public opinion and financial focus on primary education and an all-round indifference to pre school education, GOK concentrated attention on primary education, relegating pre school education to the ICDS and its mixed pot of food, health and education. The ICDS is with the Department of Women and Child Development, with its till recent image of welfare thus taking a step backward, in making the pre school a matter of welfare and not part of mainstream education.”

The Eduvision document has emphasised that the state should urgently formulate “a clearly defined policy on pre school education in the state, drawing the contours, contents and nature of education to be provided for children in the age group of 4-5”. The document further states that “such a policy for this sub sector is needed not only for guiding the government initiatives in the area but also for promoting and monitoring the activities and inputs offered by private providers of pre school education”.

Benefits of PSE

PSE not only has a positive influence on the participation of children in primary education but also significantly impacts their cognitive and emotional development by providing a stimulating environment. In the poorer sections of the society, ECCE is essential for countering the physical, intellectual and emotional deprivation of the child. PSE contributes to the development of children in a variety of ways—group socialisation, inculcation of healthy habits, stimulation of the creative learning process and enhancing of the scope for overall personality development.

PSE is a support for UEE as it indirectly influences enrolment and retention of girls in primary schools by freeing them from the responsibility of sibling care. Exposure to early childhood education constitutes the first critical step in the total learning process of the child and hence contributes very significantly to the successful completion of elementary education. A child with pre school experience is better prepared to meet the demands of the primary curriculum and performs better on entering primary school.

Growth of Pre School Education in Karnataka

Pre primary schools known as “Shishuviharas” had become popular in major towns of princely Mysore state as early as in 1900. Children who could speak were admitted to these nursery schools without

consideration of age. These nursery schools were generally found attached to local private primary schools.

The Government of Mysore invited an expert from England to prepare a scheme for introducing the kindergarten system and train our teachers. The first unaided kindergarten school was started at Chitradurga in 1911-12 with ten pupils on its roll. Two volunteer teachers were trained and appointed. Later Dr M V Gopalaswamy, Professor and Head of the Department of Psychology, Mysore University, started a shishuvihar in Mysore in 1930. Based on modern psychological principles, it paved the way for the nursery school movement in the state.

The Government of Mysore appointed a committee in 1935 to study the problems associated with pre primary education in the state and to make suitable recommendations. Though the committee submitted its recommendations in 1936, they were never implemented.

To provide training to nursery teachers, a nursery training section was started in the Training College for Women in Mysore in 1946-47. Provision was made for training 30 nursery teachers every year, with every trainee being paid a stipend of Rs. 20/-.

The grant-in-aid code was revised in 1948-49, according to which 70% of the authorised expenditure of nursery schools in rural areas and 50% of expenditure of nursery schools in urban areas was met by the government. In 1947-48, the government took the initiative to open the first 2 nursery schools. Again, with a view to bringing uniformity in pre primary education and placing it on a sound footing, it constituted another committee in 1957. The committee submitted its report in 1961, but again, the committee's recommendations were not implemented.

From the beginning, the nursery education sector was dominated by private initiative. Private nursery schools which were 30 (94%) in 1947-48 increased to 733 (80.8%) in 1971-72. Later other agencies like the Department of Social Welfare and the Social Welfare Board entered the field of PSE during the plan periods.

The Social Welfare Advisory Board undertook the scheme of running Balwadis under the Family and Child Welfare projects to cater to the needs of rural children between 3 and 6 years. The Department of Social Welfare started Nursery cum Women Welfare Centres for the benefit of various categories of backward classes and tribes. Later, NGOs and Mahila Mandals were actively involved in the running of nursery schools/balwadis. The following table shows the number of balwadis run by different agencies in the state in 1970-71.

Table 5.1
Balwadis in 1970 - 71

Organisation	Balwadis	Children
Department of Social Welfare	365	18,250
Social Welfare Board	162	6,480
Voluntary Organisations	192	7,680
Mahila Mandals	77	3,080
Total	796	35,490

Source: Annual Report 1970-71

The subsequent expansion of pre school centres/balawadis/anganawadis is discussed under the section on ICDS scheme.

Role of Private Sector in Pre School Education

PSE—by whatever name it is known (Montessori, Kindergarten, Children's Play House, Nursery, Sisuvihar, Anganawadi, Balawadi, Pre Primary, etc.)—is not an integral part of the compulsory elementary education system in Karnataka. In urban and semi urban areas, the pre primary centres are largely run by private educational institutions purely on commercial lines charging exorbitant fees. The parents of children are unscrupulously exploited by these institutions.

There is no regulatory mechanism to get these institutions registered and bring them under the control of the state. There is practically little or no information on their growth as the education department does not keep track of the developments in this sector in spite of various documents and reports of committees.

In the present system of pre primary education imparted by private schools, children are admitted to Lower Kindergarten (LKG) so that by the time they complete Upper Kindergarten (UKG), they become eligible for admission to I standard. All pre primary schools established in the private sector give a lot of importance to reading, writing and simple arithmetic though this is not advisable for children under 5 years of age. Further, there is no uniformity either in syllabus or content. They work like mini primary schools enforcing heavy discipline on tender children. In a majority of these institutions, teaching is not joyful or activity based, and children are exposed to more than one language at a tender age. The department is yet to develop a structured curriculum and enforce the same in all the pre primary schools in the state.

Issues plaguing the sector even to this day are unbridled unregulated growth of pre primary schools in the private sector, regular teaching instead of playway methods being employed, charging heavy donations in urban areas, lack of adequate training (both pre service and in service) facilities for the pre primary teachers, etc.

Fundamentally, the methods of teaching in pre primary education differ from those of primary education. The aim ideally should be to provide such experiences as to promote the physical, mental, emotional and social growth of children between the ages of 3 and 6. For this, the child has to be taken through various outdoor activities, health and hygiene activities, sensory training activities, observation of nature and language work. With this in view the government started the nursery teacher training institutions (NTTIs) and approved a syllabus in 1967.

Pre Primary Teacher Training Institutions

There are very few pre primary TTIs in the state. Also, the pre primary training, at the most, lasts for 6 months which is totally insufficient. The curriculum as well as the evaluation pattern has remained unchanged for the past several decades. In November 2006, only 425 candidates took the pre primary teachers' examination and 373 passed.

Several committees have suggested that the pre primary component be included in the curriculum of elementary teacher training institutions. This would equip the trainees with the necessary skills to handle children of a younger age group along with regular children in the primary classes.

Coverage of Pre School Component

PSE is extremely limited in its outreach. The pre school component in the ICDS scheme is administered by the Department of Women and Child Development, which targets economically poor children. The programme, according to 1995-96 Household (NSS) survey, reportedly covered only 20% of children in the age group 3-5. A child census conducted by the education department in early 2001 indicates a slightly higher proportion of children attending pre school. As per 2002 children census, there are 25.90 lakh children in the age group of 3-5 in the state. Among them, only 5.47 lakh attend pre school (21.13%).

The state has taken steps to strengthen ECCE in order to provide PSE. ECCE is now considered as a sub component of innovative activities under the centrally sponsored scheme of Sarva Shiksha Abhiyan (SSA). Rs 15 lakhs is allotted to each district and the following activities are conducted:

1. Six-day training to AWWs.
2. Providing "Chili Pili" activity bank to schools to be used by children
3. Monthly interaction meetings at cluster level for Anganawadi Centres (AWCs)

ICDS Scheme

To translate its concern for the overall development of children, the Government of India (GOI) initiated a national programme called Integrated Child Development Services (ICDS) Scheme in 1975 with a modest coverage of the country, including one project in Karnataka. This scheme has been expanded to such an extent that all revenue taluks (blocks) in the state have now been covered by it. Eligible beneficiaries under this scheme are children below 6 years, pregnant women and nursing mothers, and adolescent girls belonging to families below the poverty line and living in disadvantaged areas including backward rural areas, tribal areas and urban slums.

The ICDS scheme was launched to ensure that no child is deprived of education due to hunger. Anganawadis are conceptualized to meet the ICDS objectives which include supplementary nutrition to children, nutrition and health education for women, health cover and non formal pre school education among other things.

Objectives of the ICDS Scheme

The main objectives of the ICDS scheme are:

- Improve the nutritional and health status of children in the age group 0–6 years
- Lay the foundation for proper psychological, physical and social development of the child
- Reduce the incidence of mortality, morbidity, malnutrition and dropping out of school
- Achieve effective coordination of policy and implementation amongst the various departments to promote child development
- Enhance the capability of the mother to look after the normal health and nutritional needs of the child through proper nutrition and health education

Package of Services under the ICDS Scheme

A package of 6 services is provided to the beneficiaries through the AWCs which are managed by an Anganwadi Worker AWW and a helper at the village level in rural areas as well as in slums in urban areas (between 9.30 a.m. and 1.30 p.m. during the day). This package consists of:

- Supplementary nutrition
- Non-formal PSE
- Immunisation
- Health checkup
- Referral services
- Nutrition and health education for women

Coverage of the ICDS Scheme

The ICDS scheme was started as a pilot project in 1975 at T Narasipura in Mysore district with just 100 AWCs. Since then the programme has expanded to all the revenue taluks and 10 urban areas in the state. The criteria for establishing an AWC is that there must be one AWC for a population of every 1000, and one for a population of every 700 in tribal areas.

The SDMC study undertaken by the PPU in 2005 pointed out that only 72% of habitations had anganawadi facilities. The progress of coverage was still slow as the number of AWCs in 2005–06 was

only 40,301 (as compared to 56,348 primary schools in the state). The central government sanctioned an additional 11,313 centres in 2005–06 and 2646 centres in 2006–07. In 2006–07, there were 185 ICDS projects functioning in all the 175 revenue taluks and 10 urban areas covering 38.08 lakh beneficiaries through 51,150 AWCs. The department proposes to operationalise the remaining 3187 AWCs in 2007–08.

There are still a large number of villages and habitations which are not catered by AWCs. Young children cannot negotiate long distances outside the habitation and hence children mainly from the poor and the deprived classes are deprived of the benefit of the AWC.

Supplementary Nutrition Programme

Children below 6 years, pregnant and lactating mothers, and adolescent girls in selected blocks hailing from vulnerable sections of society form the target group of beneficiaries under the Supplementary Nutrition programme. A minimum of 10–12 grams of protein and 300 calories of energy are provided to each beneficiary at a unit cost of Rs. 2.00 per beneficiary per day for normal children and Rs 3.00 per beneficiary per day for pregnant and nursing mothers, severely malnourished children and adolescent girls. Children in the age group of 3–6 years are provided local food prepared using rice for 4 days in a week and Amylase Rich Energy Food (AREF) for 2 days.

AREF contains a suitable mix of roasted whole wheat, soya dal, defatted soya flour, roasted bengal gram, powdered sugar, malted ragi and premixed vitamins and minerals. All children in the age group of 0–3 years are provided AREF on all days. Milk bread is given to the beneficiaries on all days in two urban projects of Bangalore Urban district. From 2005–06, the GOI and the state government have been sharing the cost of supplementary nutrition programme on a 50:50 basis.

Non-formal PSE

The PSE component under the ICDS scheme is crucial to ensure holistic development of children belonging to the deprived sections of society in the age group 0–6 years. Among other traits, it also aims at school readiness and development of a positive attitude towards education. The PSE activities at AWCs also enable elder siblings to attend school. They contribute significantly to the national goal of achieving UEE.

ICDS Training Programme

The CDPOs/ACDPOs/Supervisors are given periodical refresher training. The AWWs are given a 30 day job training after their initial recruitment, and refresher training through 19 Anganwadi Training Centres located in the state. The anganawadi helpers are also given orientation and refresher training in these centres. As per the Annual Report, during 2006–07, the ICDS training was given to 595 supervisors, 6658 AWWs and 8595 helpers. The training coverage appears to be insufficient as, at this rate, it will take more than 8 years to train all the 50,000 AWWs.

Integrated Approach to PSE–Activity Bank

This is a unique programme that has been adopted in Karnataka, wherein 42 themes have been developed and these are taught on a weekly basis throughout the year with the help of songs, stories, etc.

To support this unique approach, UNICEF, in coordination with DSERT, the Department of Women and Child Development, NIPCCD, some NGOs and resource persons, has developed an 'Activity Bank' (called *ChiliPili* in Kannada), which is a collection of about 100 stories, songs, creative activities and games in the local language, with attractive illustrations for the overall development of children. Copies of this collection have been distributed to AWCs and training has been subsequently imparted to AWWs on its usage.

Support to PSE from SSA

The ICDS has not been able to cover all habitations. Consequently, the SSA is supporting Women and Child Development Department. Additionally NGOs, such as Akshara Pratisthana and Maya, have been

roped in to support 2844 ECCE centres in unserved habitations and urban slums. An amount of Rs 135 lakhs has been allocated during 2005–06 towards this.

The Department of Women and Child Development has been provided Rs. 16.5 million under SSA to supply the 'Activity Bank' developed by DSERT in 10 districts of the state after imparting training to AWWs through a core team of expert trainers identified by DSERT.

Supervision of ICDS Programme

Bala Vikas Mahila Samithis have been constituted in all the anganawadis. These committees which have been entrusted with the monitoring and supervision of PSE, include the chairperson of the local gram panchayat, the head teacher of the nearest primary school and parents of some anganwadi children. In many centres the community is contributing towards feeding of the children by providing fuel, vegetables and some other essential services. SDMCs are also being encouraged to open and run pre school centres with or without government support.

Provision of PSE Kits

Recognising the significance of early childhood development in the attaining of the cherished goal of UEE, the GOI has decided to improve the quality of non formal PSE in AWCs through a new initiative of providing PSE kits regularly, that can be procured @ Rs 500 per centre per annum.

Caring for Children with Special Needs: CBR–Portage (Community Based Rehabilitation)

The magnitude of the problem of disability is vast and its impact on the individual, the family and the community is severe. Early identification, intervention and stimulation will go a long way in preventing primary and secondary handicaps.

Portage is an early intervention and stimulation programme through which children with disabilities in the 0–5 age group are identified as early as possible, and early action is initiated to stimulate the child to develop to his/her full potential and prevent secondary handicaps. Such programmes help prepare children for inclusion at the primary education level.

The overall goal of the UDISHA – Portage project is to reach out to the un-reached disabled children, especially in rural / tribal areas and in impoverished urban areas. The training for this involves 3 levels:

- Level 1: CBR network trains facilitators for 15 days
- Level 2: Trained facilitators train ICDS supervisors for 10 days
- Level 3: Trained supervisors train ICDS AWWs for 5 days

In Karnataka this innovative programme has been taken up in 16 districts.

Deficiencies in the ICDS Programme

The sub sector study report on PSE has pointed out a number of anomalies in the functioning of the ICDS scheme. Many of the AWCs do not have proper buildings. Out of 51,150, only 29,020 (2006–07 figures) have own buildings while the remaining function out of rented buildings, temples, community halls, etc. This is despite the ZPs being entrusted with the responsibility of providing these facilities to AWCs.

A majority of AWCs lack adequate equipment. Many of the charts/ materials used are inappropriate for the particular age group. Basic minimum facilities like toilets and clean drinking water are not available. Supply of rice is also intermittent due to inherent inefficiency in the administrative system. Sometimes the children get only energy powder and sometimes nothing.

The AWW is overburdened with many programmes. She has to play multiple roles simultaneously—that of a pre school educator, a health worker and a community worker. She has to maintain about 21 records concerning birth, death, medical checkups, vaccination, number of children coming to the centre, supply of food and expenditure.

The AWCs need active supervision and monitoring. The sub sector report has pointed out that there is need for reconceptualising, revitalising and making pre school curriculum more realistic. It suggests that alphabet and number teaching can be done through child-friendly and playway methods.

In spite of its perceived inadequacies, it is universally accepted that the ICDS programme still turns out children who are more sociable and show more school readiness than those who go directly to the primary school without attending any pre school centre.

Recommendation of Committees and Reports

Several committees and reports have suggested that the state must formulate a clearly defined policy on PSE, drawing the contours, contents and nature of education to be provided for children in the age group of 3–5 years. Such a policy is needed not only for guiding initiatives in the area but also for promoting and monitoring activities and inputs offered by private providers of PSE.

The committees have also suggested that the state must constitute a council for PSE to coordinate the efforts of the various departments and other agencies involved in the field. Such a council will evolve norms, standards and uniform guidelines both for government and privately run pre primary centres. It can take up survey of all types of pre primary institutions, project future requirements of schools, teachers and facilities, review training programmes in pre primary teacher training institutions, take up research projects, awareness campaigns, etc.

A comprehensive action plan promoting quality-based universal access can be prepared by the council so that proper development and implementation of specific programmes pertaining to pre primary education in the state is taken care of.

Meanwhile, the state could continue to strengthen the pre school component in the AWCs. Teaching and play materials must be provided and renewed regularly. Physical linkage between the AWC and the local primary school needs to be brought in. In fact the AWC must be brought under the supervision of the local SDMC.

The AWW may be given training for 10 days in a year on activities she should carry out in the pre school component. Training must concentrate on the following areas:

- Social, emotional and cognitive growth and development of the child
- Communication and human development skills
- Joyful learning techniques
- Preparation of teaching aids from low cost/no cost materials
- Awareness of the rights of the child

These training programmes must involve representatives of the local community. It is also desirable to develop training modules for supervisory staff and officers.

The committees have also suggested providing one local volunteer to look after the pre school children in schools and in backward blocks where the percentage of dropouts and out-of-school children is very high. If PSE is to prepare children for primary school in terms of their physical, social and cognitive development, the school itself should be ready to facilitate their transition. This could be done by-

- Integrating PSE more closely with the primary school by forging stronger links among the health and education components
- Creating continuity in curriculum, combining multigrade classrooms, teaching methods which respond to varying abilities and interests of students
- Involving talented parents and community members in school activities
- Taking up joint training of pre primary and primary teachers to assure professional continuity between the two levels

Chapter 6

Elementary Education in Karnataka

Universalisation of elementary education has been accepted as a national goal since 1950. It has been reinforced by constitutional provisions too. The NPE 1986 defines UEE broadly, giving equal emphasis to enrolment as well as retention of children.

National Policy of Education (NPE) 1986

The NPE states ".... up to a given level all students should have equal access to education of comparable quality, that whatever the socio economic background of the children, they get opportunities to achieve success of a level, which is equal to the level of the children from comparatively better off sections of society and the country moves pace in the direction of a common school system."

The NPE 1986 further makes a significant shift in emphasis from enrolment to participation and retention. The goal of UEE has been enlarged to include provision of education of a satisfactory quality. The NPE emphasises the fact that all eligible children are to be covered by mainstream learning activities and those who are not enrolled are to be covered through alternative learning processes, which are designed to suit the needs of various types of children.

The Program of Action (POA) 1992 emphasized that enrolment by itself is of no importance if the child does not continue education. Hence, retention of a child in the school till elementary education is completed assumes importance. Continuous absenteeism and dropouts are also important issues to be addressed along with quality education.

The main goals of UEE are

1. To provide universal, free and compulsory elementary education of good quality to all children.
2. Universal enrolment of all children including girls, disabled and children belonging to SC/ST groups.
3. Provision of non formal education for school dropouts, working children and girls who cannot attend formal schools.
4. Universal access which presupposes the availability of a primary school within walking distance to all children.
5. Universal participation, which implies that all children who join primary stage continue till the end of the stage and their participation is active and regular.
6. Universal achievement which means that all children attending schools achieve certain Minimum Levels of Learning (MLLs) when they complete primary education.

Progress of UEE in Karnataka

With the objective of making elementary education universal, the MHRD set up a national working group and all the states were requested to set up similar groups to prepare plans for VI and VII plan periods. In 1978, the state entrusted the responsibility for preparing a 10 year project report for UEE and formed a working group consisting of educationists Dr A C Devegowda, Prof. S R Rohidekar, and to K Shantayya. This group made several recommendations and suggested strategies for increasing

attendance, adopting the non formal system, improvement of quality, and strengthening of administrative control and supervision.

Along with the total literacy campaign, efforts were made to focus on the universalisation of primary education. The goals (as modified from time to time) envisaged were:

1. Universal Access: Making a primary school available within walking distance to all children—a lower primary school in habitations with a population of 300 (later, the norm was changed to 200 in Karnataka) or within 1 km from the residence of the child; an upper primary school within a distance of 3 km from the habitation. This objective also included construction of school buildings/classrooms and provision of adequate teachers.

2. Universal Enrolment: Ensuring that all children of school-going age are enrolled in the primary school through enrolment drives. Gross Enrolment Ratio (GER) and Net Enrolment Ratio (NER) are the education indicators to understand the extent of universal enrolment.

3. Universal Retention: Retaining the child throughout the primary stage through providing incentives such as competency-based textbooks, free uniforms and textbooks (under Vidya Vikas Scheme), school bags, notebooks, midday meals, scholarships, health checkups, separate toilets for boys and girls, etc.

4. Universal Participation and Achievement: (a) Ensuring that all children who are enrolled in a primary school continue until the end of the primary stage with active and regular participation. This envisaged provision of teaching-learning materials (TLMs), furniture and equipment, laboratory, library and sports equipment, etc. (b) Ensuring that all children attending primary school achieve certain MLLs when they complete their primary education. This envisaged provision of improved pre-service and in-service training of teachers, resource support to teachers through BRCs/CRCs, continuous and comprehensive evaluation of children in lower primary classes.

The state has taken several positive and important steps to achieve the goals of UEE. Considerable progress was achieved through implementation of several incentive schemes and national programs such as Operation Black Board Scheme (OBB), District Primary Education Program (DPEP) and SSA. In order to bridge the existing gaps, SSA redefined the objectives with a view to ensuring that the following were in place before 2007:

1. All children in the 6–14 age group to be in standards I to VIII.
2. Infrastructure and human resources needed for providing 8 years of free, compulsory, relevant and quality education.
3. Education becomes a means of genuine empowerment of the individual to achieve his/her full potential.
4. The learning process is made locally relevant, child-centred, activity-based and joyful.
5. Educational management is decentralised with the community taking ownership of children's right to education.

Present Elementary Education Scenario in Karnataka

The duration of elementary education in the state from 1962–63 onwards was uniform with 7 years of primary education in two stages—4 years of lower primary and 3 years of upper primary. The lower primary cycle was increased to 5 years in 2001–02 by adding standard V. Later, VIII standard was sought to be added to the elementary cycle.

Access

Karnataka has been able to provide access to 98.98% and 99.19% of the habitations in respect of lower and upper primary classes respectively. Primary schools have been established in all habitations with a population of 200 or more; in other habitations with a population of less than 200 a primary school is available within walking distance. Access is therefore no longer an impediment to the goal of universalisation. The number of schools, now over 50,000, has increased by nearly 25% in the last 10–12 years. (Refer also Table EE 3).

Table 6.1
Provision of Access

School	Education Department	Aided	Unaided	Other Govt. Agencies	Total
Lower Primary Schools	24,547	326	3,243	383	28,499
Higher Primary Schools	19,807	2,173	5,468	401	27,849
Total	44,354	2,499	8,711	784	56,348

Source: Annual Report (Education Department) 2006–07

However, as reported by the study of Price Water House Coopers, the northern districts of Belgaum, Gulbarga, Bagalkot, Bijapur and Bidar are below the state average in access at the lower primary stage and the districts of Gulbarga, Bellary, Belgaum, Dharwar, and Koppal are below the state average in respect of access at the upper primary stage.

There are now over 2,53,000 teachers working in primary schools in the state.

Table 6.2
Number of Primary School Teachers

Schools	Education Department	Aided	Unaided	Other Depts.	Total
Lower and Higher Primary	1,71,473	16,031	62,138	3,934	2,53,576

Source: Annual Report 2006–07

Teacher Recruitment

Karnataka is one of the few states in the country to have only trained teachers which obviously has enhanced the quality of learning. Recruitment of teachers has more or less kept pace with growth in enrolment. As a result, the pupil-teacher ratio (PTR) has shown a declining trend. It declined from 41 in 2000–01 to 34 in 2006–07. However, it is not uniform across districts and there are significant inter district variations. We still find schools with PTR more than 50 in some districts of north Karnataka. Over 27,000 teachers have been recruited in government primary schools in the past 5 years (Refer Table EE 23).

Women Teachers

The policy of the state to recruit not less than 50% women teachers in primary schools had a tremendous impact on enrolment and retention of girls in the primary schools. The proportion of women teachers in primary schools in the state has increased from 46% in 1998-99 to 54% in 2005-06. Kodagu has the highest proportion of women teachers (79.2%) while Bijapur has the lowest (38%).

Even though the overall proportion of women teachers in the state is impressive, their comparatively low presence in rural schools is due to lack of facilities especially in Hyderabad Karnataka area. This is also one of the reasons for lower enrolment and retention of girls in these areas in the state.

Enrolment

Enrolment in primary schools has kept pace with expansion of the primary school network. At the elementary stage it has increased by 2.2% in the last decade with a higher growth rate at the upper primary stage (4.4% p a) than the lower primary stage (1% p a). From 23 lakhs at the primary level in 1959-60, it has spectacularly increased to 87.21 lakhs in 2006-07. (Refer Tables EE 4 and EE 5). This has been possible due to a number of measures undertaken by the government over the years.

The state has been conducting children's census every year to identify children eligible for enrolment the following year and those who are out of school. The age of compulsory admission to primary school is 5 years and 10 months. However, voluntary admission is allowed to children above five years of age. The phenomenon observed in urban and semi urban areas is that more than 50% of the children are admitted to primary I standard before they complete 5 years. The state has also been conducting summer bridge courses (chinnara angala) and mainstreaming out-of-school children every year.

Gross Enrolment Ratio (GER)

GER is defined as the number of students enrolled in a level of education (whether or not they belong to the relevant age group for that level) as a percentage of population in the relevant age group at that level.

GER for I to VII standards has shown significant improvement since 1980-81. It has moved up from 66 in 1980-81 to 92 in 1996-97, and further to 110 in 2005-06.

Net Enrolment Ratio (NER)

NER is defined as the number of students enrolled in a level of education (who belong to the relevant age group) as a percentage of population in that age group. The following table gives the progress of GER/NER over a 3 year period.

Table 6.3
GER - NER

Year	Lower Primary		Upper Primary	
	GER	NER	GER	NER
2003-04	110.17	94.00	103.58	90.03
2004-05	110.49	97.87	107.87	96.69
2005-06	107.54	98.06	110.07	98.32

Source: Annual Report 2005-06

Tables EE 22, EE 28 and EE 30 (Pg. nos. 400-403) can also be referred for various details regarding GER and NER in the state.

Incentive Schemes

The state has a number of incentive schemes for ensuring universal enrolment and retention. Free textbooks and free uniforms (under **Vidya Vikas** scheme) are given to all children studying in government schools. Education is free for girls up to PUC. The hot cooked midday meal scheme (**Akshara Dasoha**) has been extended to cover all children studying in standards I to X in government and private aided schools. SC/ST girls are given school bags, exercise books and attendance scholarships.

There are also various schemes for bringing out-of-school children back to school. These schemes also try to address all major constraints faced by such children and their families.

Retention and Completion

In line with the recommendations of the Task Force Report and also in a bid to follow the national pattern, the state took a policy decision in 2001–02, to extend the lower primary stage to 5 years, which has helped retain children in the system for one more year. The state also implemented the 'No Detention Policy in I to IV Standards' to facilitate retention and reduce potential dropouts. Preparation of MLL/competency based textbooks and provision of incentives to children are also undertaken by the state.

Formation and empowerment of SDMCs and conduct of Samudayadatta Shale (a day-long programme in which community participates in the activities of the school) is being done under community empowerment.

Table 6.4 gives the dropout rates at the elementary education stage which are marginal (boys 14.14 and girls 14.36 and all children 14.25, for I to VII standards) for the year 2006–07. (The issues of dropouts and out-of-school children have been discussed separately). The repetition rate for I to VII standards is 8.34%. (Refer Table EE 35).

Transition from VII standard to VIII standard has been an area of concern. The state began upgrading the existing central higher primary schools by adding VIII Standard. So far, about 5000 higher primary schools have been upgraded.

Achievement of Quality

Achievement of certain MLLs is one of the objectives of UEE which is one of the most difficult to attain. Because of the widespread school system in the state, maintaining uniformity in quality of learning in all the schools across the state is also a challenging task. The state has taken up assessments by Karnataka State Quality Assessment Organisation (KSQAO) under quality improvement. All aspects relating to achievement of quality in elementary education are discussed in detail in Chapter VII.

Out-of-school Children

In 1980–81 out of a child population of 81 lakhs in the 6–14 age group, 38 lakhs (48%) were out of school. The percentage of out-of-school girls was as high as 55%. According to children's census of 2002, out of 90.22 lakh children in the age group of 6 to 14 years, 6.66 lakhs (7.38%) were out-of-school children. The progress achieved in this sphere is due to the various departmental initiatives that have led to a rapid drop in the number of such children.

The 2007 children's census conducted by SSA has revealed that there are now 80,863 (41,150 boys and 39,713 girls) out-of-school children in the state. Out of them, 60,516 are school dropouts and 20,347 have never been to school. However, in reality, this figure appears to be much more, when one takes into consideration the children of seasonal migratory population and other marginalised groups.

The Issue of Dropouts

Access and enrolment are no longer important issues as far as lower primary classes are concerned. But dropout is still an issue in the elementary stage, as it is an indicator of the inefficiency of the elementary

school system in that it points towards the levels of wastage of human resources. Under normal circumstances, dropout indicates continuous absenteeism of the child from school. But the duration of absenteeism varies according to the adopted time frame. Dropout rate is defined as the percentage of children dropping out of school as against the total enrolment in a particular year at a particular stage.

With a view to reducing wastage and stagnation and improving attendance in primary schools, the state developed various strategies which included back-to-school campaigns, summer bridge courses, formation of SDMCs, introduction of midday meals, introduction of various incentive schemes and attendance scholarships. Tables EE 8, EE 9 and EE 10 reflect the impact of the various efforts of the state in reducing the drop outs at the elementary education stage. As a result, the dropout rate in I to IV standards came down from about 27% in 1992-93 to 9.87% in 2006-07 and in standards I to VII, it came down from 48.71% in 1992-93 to about 14.25% in 2006-07 (according to official figures).

Elementary Education in India, an analytical report (2003) published by NIEPA, indicates 31% as the differential in enrolment from I to VII standards in the state of Karnataka. This is yet another estimate based on the selected statistics of the state. The official figures concerning dropout rates as given in the Annual Report are given below:

Table 6.4
Reduction in Dropout Rates

Standards	2003-04	2004-05	2006-07
I to V	8.38	9.33	9.87
I to VII	28.94	14.47	14.25
I to X	59-61	55-67	44.20

Source: Annual Report 2006-07

Dropout is influenced by a series of independent factors (variables), namely, school environment, socioeconomic and socio-psychological factors, prevalence of child labour, age of the child, negative attitude of parents towards education and the need to earn livelihood at an early stage of life among certain sections of children. Coupled with the above, family migration and frequent changes in residence are also responsible for dropouts. Among the internal measures that can be controlled and implemented to reduce the rate of dropout are, addressing the issues of wastage, non promotion of children, repetition of admissions and early childhood learning processes.

The reasons for dropout and non attendance in schools are many.

1. Poverty, which forces parents to employ their children at work rather than admitting them in schools
2. Lack of parental support and motivation due to low education among parents
3. Early marriage of girls
4. Using girls for household work and sibling care
5. Distance of the school from the habitation
6. Lack of attractive atmosphere in schools
7. Inadequate infrastructure and overcrowded classrooms
8. Lack of separate toilets for girls
9. Lack of drinking water facility
10. Teacher teaching multiple classes at the same time, resulting in lack of individual attention
11. Poor instructional quality

12. Teacher absenteeism
13. Repetition of the same class by the students
14. No linkage between education and the job market

The above factors individually or collectively are responsible for children not enrolling in or dropping out of school. The current data shows that out of 100 children joining I standard only 55 reach VIII standard. The dropout rates for girls are invariably higher than that for boys in all the classes, because the average rural family treats boys as socio economic assets and believes that investing in their education enhances their economic status.

Related Issues Regarding Dropouts

According to the departmental guidelines, any child who is absent in the class continuously for one calendar month (30 days) for any reason is a dropout. However, reasons like child health, parental or child disinterest in attending school for a period of more than 30 days needs to be verified by local teachers, and corrective measures are to be initiated to make the child attend the school regularly. Presuming that teachers do initiate such action and allowance is made for various other factors like migration, change of residence and issuance of transfer certificate, any absenteeism is still considered voluntary and requires to be addressed.

Student Attendance

Irregular student attendance is a major issue especially in districts of North Karnataka. It is noticed that though the students are enrolled in schools through various enrolment programmes, the daily average attendance in most schools rarely exceeds 70%. Poor student attendance is mainly due to lack of awareness among parents and community, seasonal migration of agricultural labour, sibling care and household duties by elder children, and social customs like not sending girls to school after reaching puberty. Under parental pressure, teachers often resort to faking attendance, which has been minimised after the introduction of the hot cooked midday meal programme. However, poor student attendance continues to be a major problem, especially in the lower primary classes in northern Karnataka.

The difference in figures between attendance marked by teachers and actual students present in the school is also an important issue in North East Karnataka (NEK). On an average only 70–80% of children enrolled are to be found present on any given day. Even though attendance is an important education indicator, statewide data is not available.

The Perspective Plan Committee has suggested that the department must make efforts to capture and analyse attendance data in a comprehensive manner at all levels. Since school-wise average monthly attendance is a better indicator than enrolment figures, the committee has suggested that average attendance data be utilised for all future planning.

Issue of Single Teacher Schools

Before independence, under the scheme of Hobli schools, almost all the schools were single teacher ones and a majority of them did not have more than 15–20 children. During 1955–56, there were 12,553 primary schools in the state with 8.60 lakh pupils. 53.6% of them were single teacher schools and the average number of children in these schools was 30. About 69.4% of these schools had all the 4 classes.

With the introduction of the compulsory primary education scheme, the strength in such schools increased considerably. In schools in the NEK area, some single teacher schools had a strength up to 140 children. The OBB scheme implemented in phases helped convert many of the single teacher schools to double teacher ones. But they often used to revert to the single teacher status when one teacher went on long leave or one post became vacant due to transfer/retirement, etc. The sub sector study report on elementary education (2001) estimated that 14% of the schools were single teacher ones.

Issue of Multigrade Schools

The issue of multigrade (MG) schools arises from the state norm of fixing the number of teachers per school. The present norm for a lower primary school is a minimum of 2 teachers and 2 classrooms for 5 classes. For a higher primary school the norm is a minimum of 4 teachers and 4 classrooms covering 7 classes. This has resulted in multigrade situation in almost all schools affecting the quality of classroom transaction severely.

According to the sub sector study report, 94% of lower primary schools (18,868 schools out of 20,086) and 45% of higher primary schools (9,718 out of 21,526 schools) in the state are multigrade. (Refer Tables EE 18, EE 19 and EE 20).

The teachers in these MG schools face the following problems:

1. Adopt different roles simultaneously
2. Handle more than one class at the same time
3. Are ill equipped and not sufficiently trained to handle multigrade situations
4. Being single teacher schools, work comes to a standstill when the teacher goes on leave/transfer/training, etc.
5. Academic support is inadequate
6. When the student strength increases beyond a particular level, the teacher can only maintain discipline rather than any effective teaching.

'Nali Kali' was an attempt to build capacities of teachers working in such schools. Programmes like 'Chaitanya' trained teachers to handle multigrade and multilevel situations.

Education Technology

In 2002-03, SSA in collaboration with the Azim Premji Foundation (APF) pioneered the introduction of computer education in 225 higher primary schools in the state. Each school was provided with 5 computers. The local educated volunteers were not only trained by APF but a self sustaining model was also sought to be created.

Subsequently, in 2005-06, SSA provided 2 computers to each of additional 540 higher primary schools. These efforts by the state are still seen to be insufficient as there are another 22,000 higher primary schools to be covered.

Issues at Upper Primary Stage

Near complete enrolment at lower primary stage has led to enhanced attendance at the upper primary stage bringing in its wake greater pressure by way of additional demand for classrooms and other basic requirements like library, laboratory, etc. Substantial upgradation of laboratory and library facilities is required for schools having upper primary sections.

There are many upper primary schools which are too small to be viable for maintaining good quality infrastructure and academic resources. Lack of graduate subject teachers to teach upper primary classes is another major issue. The present teachers with qualification of PUC-TCH (or DEd) are unable to meet curricular requirements of upper primary classes as curriculum becomes subject specific and teaching at a specified level is daunting for good teachers. In order to improve quality of classroom transaction, the Perspective Plan Committee has also recommended induction of graduate teachers at the upper primary stage, as is the practice in many states.

Teacher Transfers

Every year the transfer policy is framed keeping in mind the needs of teachers as against those of schools. Transfers are carried out throughout the year on political considerations. As a result, schools suffer from

a number of unfilled vacancies. The use of political influence for transfers has reached alarming proportions, which reduces the morale of teachers who seek transfer on genuine grounds.

Teachers prefer to get transferred to schools near towns and on roadsides, leaving out remote schools and blocks. The problems of posting teachers near their hometowns are many as they tend to engage in local politics, additional professions like agriculture, shopkeeping, running of private schools, private tuitions, etc., and neglect schoolwork. In 2007, the state has enacted an Act to regulate teacher transfers.

Organisation Reengineering Study 2006

The organisation reengineering study (by Price Water House Coopers) has revealed the following delivery gaps in the elementary education sector in the state.

1. Elementary education share (FY 2006) in the budget is Rs 2665 crores, which is 58% of the total education budget. SSA outlay (FY 2006) is Rs 409 crores (64% access related, 23% quality of education related), each division gets, almost equal share (25%)
2. More than 1/3 of classrooms in 17 districts need repairs
3. More than 1/3 of the schools in 4 districts have no water facility
4. More than 1/3 of schools in 18 districts have no toilets
5. More than 1/2 of schools in 15 districts are without playground
6. More than 1/2 of schools in 15 districts have no electricity
7. More than 80% of schools in 17 districts have no pucca boundary wall

These service delivery gaps have a definite bearing on the education system as a whole. It is imperative that the state fixes basic minimum infrastructure criteria for all types of educational institutions and tries to bridge the gaps within a time frame.

The CAG Report

The CAG in his report for 2006 has highlighted concerns regarding achieving the objectives of SSA.

1. The SSA is unlikely to achieve the objective of universal retention by 2010 as it has failed to absorb even the reduced level of funds with delays.
2. Only 41% of the government schools in the state have basic infrastructure as at 2005.
3. Though the school dropout at the primary level is 7.89%, it is 24.68% at the higher primary level and this trend over the years indicates that the universal goal of achieving zero dropout stage cannot be achieved by 2010.
4. Even the project of having all children in schools by 2005 could not be achieved as about 1.6 lakh children were still out of schools as at March 2005.
5. The free textbook facility is not available to 4 lakh children of the focus group in aided schools.
6. 7608 government schools (2%) did not have buildings, 6236 (14%) had only single rooms, 9387 did not have drinking water facility, 19,954 (46%) did not have toilets and 25,745 (59%) had no electricity as at March 2005.

Present Challenges in Elementary Education

Even though rapid progress has been achieved in elementary education through increase in number of schools, teachers and facilities, the progress has been uneven across districts.

The state faces a number of challenges. Even after 60 years of independence, the UEE goals of 100% enrolment, 90% minimum average attendance and attainment of 80% mastery by 80% of children have not been achieved.

The HDR 2005 points out that the mean years of schooling (Refer Table G T 7) have improved only marginally over a 4 year period from 3.97 in 1999–2000 to 4.25 in 2003–04, and there is little difference between boys and girls. If the mean years of schooling is taken as an important indicator of retention, then current levels of completion fall well below the expected objective and constitutional mandate of universal education up to the age of 14.

There is the issue of a large number of small schools catering to children of remote and inaccessible areas, and those from poor and depressed classes. They have definitely helped improve access and enrolment. But on the flip side, these schools which have smaller number of children underutilise teachers, thereby distorting the pupil-teacher norm. They also lack adequate facilities which in turn impacts quality. The state implemented the consolidation of smaller schools (wherever feasible) in urban areas in 2002–03.

Quality Issues

Several studies have pointed out that considerable gaps exist in the quality of learning among students in primary classes. (Tables EE 11, EE 12 and EE 37). Teachers and children face a large number of problems in classrooms as a result of multigrade situations in schools and teacher absenteeism.

It has already been noted that curriculum at the upper primary stage becomes subject specific. In the past, often teachers who had not studied science and mathematics at the pre university level were forced to teach them at the upper primary level. The government, in recent years, has tried to tackle this problem by appointing subject teachers who have studied these subjects at the PUC level. But this does not cover all the 20,000 higher primary schools. Lack of proper laboratory and library facilities at the upper primary stage is another important factor impacting quality of classroom transactions.

Effect of Adding VIII Standard to Higher Primary Schools

Upgradation of several higher primary schools by adding VIII standard has created several problems which are yet to be solved. In most of the schools, physical uniformity has been achieved without giving adequate attention to its impact on the quality of classroom instruction. In several schools, only 2 graduate teachers are made available and hence some subjects are still handled by undergraduate teachers who lack subject specific knowledge. Given a choice, the parents tend to admit their wards to the VIII Standard of a high school rather than the VIII standard of a higher primary school.

Teacher Absenteeism

Teacher absenteeism is a major factor affecting quality of classroom transaction in primary/secondary schools. The World Bank Report (2002) has estimated that it is as high as 21.7% in the state. This means that nearly 1 out of 4 teachers are found to be absent at work (both government and private) on any given day. Multigrade schools report a higher incidence of teacher absence. Maharashtra (14.0), Gujarat (17.0) and Madhya Pradesh (17.0) are reasonably well off compared to Karnataka in this regard.

Even when teachers are present, they spend only 68% of their time on academic work, while the remaining 32% is spent on non academic work. Taking the teachers' absence also into consideration, the Organisation Study Report (2006) by Price Water House Coopers estimates that the academic time gets reduced to 53% (117 days out of 220 school working days).

The reasons for teacher absenteeism are many. Teachers are entitled to casual leave, earned leave, medical leave and maternity leave/paternity leave. Besides, there is also the problem of unauthorised absence and lack of public awareness. With lady teachers forming more than 50% of the teacher population in primary schools (and more than 30% in secondary schools), the issue of their going on long leave and maternity leave is a serious problem which the department has to take note of and make alternative arrangements so that the academic work does not suffer. The issue is more acute especially in secondary schools, as a subject teacher going on long leave deprives the students of classes in that particular subject for the duration.

The annual deputation of teachers to new schools and vacant posts is also another major reason. In several cases, teachers are deputed to work as CRPs and BRPs. Other external factors—like teachers being deputed for election work, census, revision of electoral rolls and teacher training—also impact teacher attendance in school. When a vacancy (due to promotion, retirement, death, transfer) is caused in any school during an academic year, the vacancy mostly remains unfilled during the academic year.

Since a majority of teachers live in urban areas (for various reasons including education of their children)/in their native places/or other central locations (from where both husband and wife can travel to their places of work), and commute to schools through public transport such as buses or private vehicles and jeeps, there are instances of teachers not coming to schools on time as well as instances of habitual absenteeism in remote/rural schools. After the formation of SDMCs, this problem has come down as a majority of them closely monitor teacher attendance.

The state has tried to tackle the problem of teacher absenteeism in several ways:

1. School working days have been extended from 220 to 244 by reducing summer/October holidays. This helps in compensating, to a large extent, the time spent on co curricular activities like sports, cultural activities, educational tours and excursions.
2. Banning of employing teachers for any work other than census and elections. (Recently the Supreme Court has banned using of teachers during school working days for any other work.)
3. Teacher training is being done only during summer and October holidays, to which there is resistance from teachers.
4. A provision was made for leave reserve teachers but has been subsequently discontinued as most retired teachers reside in urban areas and are unwilling to work in rural and remote areas.
5. Instructions have been issued to the deputy commissioners and other officers not to use the services of teachers during the working of the school.

But much more needs to be done to tackle this problem. The department must stop using the services of teachers for any departmental work. The children's census, revision of electoral rolls, elections and such other work must be undertaken only during school holidays. Even though free textbooks and uniforms are to be delivered to schools, in several cases we find teachers going to block education offices to collect them as they are usually not delivered in one lot.

The practice of using primary teachers for the X standard public examination supervision in March (as this is the time when the primary teachers have to be completing their own semester examinations) and supplementary examination supervision in June (the beginning of the school calendar) also needs review.

Several bigger urban schools face another kind of problem. These school premises are selected for conducting various board examinations like commerce, dance, music, talavadya, diploma in education, drawing and painting. These examinations are spread over more than a month and, to that extent, the academic work in these schools gets severely affected. Similarly, these schools are also used for KPSC/departmental examinations/SSLC/PUC examinations which also disrupt academic work of these schools.

Genesis of Compulsory Primary Education in the State

In the princely state of Mysore, the first efforts towards universal compulsory education were made in 1913 with the promulgation of the Mysore Elementary Education Act. To begin with, the Act was implemented in 15 selected areas in 1914-15. However, in 1926 the issue was reviewed and compulsory education deferred, as the government felt that improvement of existing schools was of greater importance than the rapid expansion of primary schools. It was also felt that primary education would be implemented more effectively if it was decentralised, and accordingly, it was handed over to the control of District School Boards in 1931.

But with the enactment of the Mysore Elementary Education (Amendment) Act 1941, the government resumed control over primary education from the local bodies. In view of financial, social and economic difficulties, it was considered inexpedient to launch a plan of compulsory education. Accordingly, the Elementary Education Act of 1944 provided for children to be admitted voluntarily to primary schools, and to continue in school until they completed the course or attained twelve years of age, whichever was earlier.

The Act also provided for introduction of a compulsory attendance scheme throughout the state within a period of 10 years. The scheme did not yield timely results, and with repeated representations to the legislature, the state decided that the provisions of full compulsion contained in the Act should be brought into force from 1 August 1947. To begin with, full compulsion was introduced in nine Hoblis (revenue circles) which was later extended to nine Blocks. But further extension was deferred due to financial difficulties.

The construction and maintenance of school buildings was made an obligatory function of Taluk Boards by the Mysore Village Panchayat and Local Boards Act of 1959. With effect from 1959-60, primary education was made free in all government, district board and municipal schools. However, special fees such as Sports, Reading Room, AVE, etc. continued to be collected from students of higher primary and middle school classes (SC/ST students were however exempted).

Management of Primary Education

At the time of reorganisation of the state in 1956, the administration and pattern of primary education differed from region to region. In princely Mysore state, most of the primary and middle schools were run by the government.

In Bellary district of the former Madras state, schools were under the control of local bodies. In Bombay-Karnatak area, the local boards (District School Boards and Municipal School Boards) were in charge of primary education. In Hyderabad Karnatak area, all the primary schools were government ones or private schools receiving grants from the government. In Coorg, the responsibility for primary education vested with the government. There were also a few municipal and private schools.

With the abolition of the District Boards, the schools under their control were transferred to the government in 1963-64. However, the municipalities continued to maintain primary schools. These schools (except Bangalore City Corporation schools) were also taken over by the government in 1969. At the end of this exercise, there were only two types of schools in the state—government schools and private schools (aided and unaided).

Education as a Constitutional Obligation

Ever since the country became independent and consequent to the constitutional obligation of providing free and compulsory education to all children till the age of 14, the progress of primary education in the state has been quite impressive. At the time of reorganisation of the state, the scheme of Compulsory Primary Education was in force in all regions except Coorg. The constitution and legal provisions have been discussed in detail in the Annexure.

The Mysore Compulsory Primary Education Act 1961

In accordance with the constitutional directive contained in Article 45, the GOI decided that at least 90% of children in the age group of 6-11 must be brought to schools between 1961-62 and 1965-66. The Government of Mysore accordingly passed the Compulsory Primary Education Act of 1961. This Act provided for the enforcement of compulsion at the lower primary stage for children in the age group of 6-10 years (as the duration of lower primary stage in the state at that time was only 4 years). In order to support this Act, the state was obliged to provide schooling facilities in un-served areas. This provided a fillip to the local communities to open new schools in their own areas. The relaxation of the grant-in-aid system also helped rapid expansion of primary schools in the state.

C P E Children's Census

Under this Act, the enumeration of children was started in the form of the Children's Census in 1960-61 which is conducted every year till date. The following table shows the enumeration and enrolment of children (6-10 years) according to the first census.

Table 6.5
First Children's Census 1961-62

Figures in lakhs

	Boys	Girls	Total
Enumeration	4.04	3.44	7.49
Enrolment	3.83	3.16	7.00
Percentage	94.80	91.90	93.50

Source: Twenty Five Years of Education in Mysore

Karnataka Education Act 1983

The Karnataka Education Act 1983 (which received the assent of the President in 1993) gave a directive to the state government to make primary education compulsory in all areas after providing for adequate number of schools and teachers. Though the Act makes it obligatory for parents to send their children to school, judicial pronouncements reiterate that it is the state that must provide the necessary facilities to bring in the element of 'compulsion' in imparting free and compulsory education. However, the state has not only failed to fulfil this obligation, but has also diluted the legislation as the element of compulsion has got scaled down to persuasion and finally to (along with the Child Labour Act) a mere regulation.

Operation Black Board (OBB) Scheme

The OBB scheme, introduced as a sequel to the NPE 1986, was a Centrally Sponsored Scheme (CSS) and was implemented in 8 phases from 1987-88 to 1994-95, with 4 extension phases from 1994-95 to 1999-2000. It financed construction of additional classrooms, appointment of additional teachers and supply of TLMs. Salary grant was 100% for additional teachers appointed under the OBB, till the end of the ninth plan. Each school was given TLMs worth Rs 40,000/-.

The first 6 phases covered lower primary schools, and phases VII and VIII covered higher primary schools in addition to lower primary schools. In addition to the amounts released under OBB, the ZPs utilised funds under Jawahar Rojgar Yojana apart from their own funds for construction of classrooms. Under the OBB scheme, the state constructed 20,222 classrooms from 1987-88 to 1999-2000 against a target of 25,530.

The following table gives the phase wise recruitment of teachers under the OBB scheme.

Table 6.6
Recruitment of Primary Teachers under the OBB Scheme

<i>Phases</i>	<i>Year</i>	<i>Posts Sanctioned</i>	<i>Posts Filled</i>
I	1987-88	1611	1611
II	1988-89	5003	5003
III	1989-90	2712	2712
IV	1991-92	4597	4597
V	1994-95	427	427
VI	1994-95	2769	2769
Ext - I	1997-98	1578	1578
Ext - II	1997-98	7935	7935
Ext - III	1998-99	8205	7767
Ext - IV	1999-00	1198	1102
Ext - LPS - IV	1999-00	1086	1003
Total		37,121	36,504

Source: VI All India Education Survey Report

The state utilised the scheme reasonably well. The achievement was 79.2% in classroom construction, 98.33% in recruitment of teachers and 100% in respect of TLM. Also it was able to convert a majority of single teacher schools to double and multi teacher schools depending on the strength of children. However, there were several complaints over purchase of TLMs by ZPs and the enquiry lasted more than a decade.

District Primary Education Programme (DPEP)

Coverage under DPEP

DPEP, a World Bank aided project, was formally launched in four districts of Karnataka (DPEP I Phase—Kolar, Mandya, Belgaum and Raichur, the last being bifurcated later as Raichur and Koppal districts) on 26 January 1995. The districts in the first phase were selected based on low literacy rates among women and the success of the Total Literacy Campaign (TLC).

Subsequently, DPEP was extended to 7 more districts in the second phase [DPEP II Phase—Bangalore Rural, Bidar, Bijapur (later bifurcated as Bijapur and Bagalkote districts), Bellary, Dharwar (later trifurcated as Dharwar, Gadag and Haveri districts), Gulbarga and Mysore (later bifurcated as Mysore and Chamarajanagar districts)]. Hence a total of 16 revenue districts were covered in the two phases. These districts were identified on the basis of low female literacy, higher infant mortality, adverse sex ratio and lower per capita income.

Thus, DPEP covered the entire northern and eastern parts of the state which were traditionally more backward than the rest. The programme was a unique effort based on micro planning, participatory processes and empowerment of local communities, especially weaker sections of these communities. It brought about a visible change both in improvement of infrastructure and academic development.

Objectives of DPEP

DPEP aimed at augmenting the state's efforts at achieving universal primary education in these districts by providing access to all children through formal and non formal systems, ensuring universal participation of children and improving the quality of teaching-learning transactions at the lower primary stage. The focus was on mainstreaming children belonging to marginalised groups, particularly girls and SC/ST.

The main objectives of DPEP were:

1. Universalisation of access (for primary education)
2. Universalisation of retention
3. Universalisation of learning achievements—to increase the learning levels at least by 25% over the measured baseline achievements
4. Capacity building - to increase the capacity of teachers and other administrative strata through training
5. To reduce the gap of achievement levels between the general and female children and other socially backward groups (SCs & STs) to less than 5% over the measured baseline achievement.

During the first 4 years, there was progress in many areas including techniques and activities developed for mobilising people, and ensuring their participation in the education process through a variety of programmes such as Kala Jathas, Chinnara Melas, V E C Melas and Micro planning.

Kala Jathas spelled out the importance of UEE with special focus on the girl child. The Kala Jatha teams formed at the district level performed in the targeted villages and motivated the communities to send their girl children to schools.

The initial focus on girl child enrolment gradually attained the dimension of universal retention and universal achievement. The regular enrolment drives also campaigned against child labour. "Malka" was a social film which established the importance of girl's education and highlighted the mother's role in determining the prospects of the girl child. The film was selectively screened during campaigns and teacher training programmes.

Chinnara Mela was a child-centred campaign incorporated in the project implementation with the active association of an NGO called BGVS. It was aimed at breaking the caste and gender barriers among the community, practising joyful learning and communicating the pedagogic philosophy to the community.

To kick-start this programme, two villages were identified and 50 children from each village were picked. One village played host and the other was the guest. Each host child's house accommodated one guest child, without taking into consideration the caste, class or sex of either child.

Staged in a common place in the villages, groups of children visited various learning corners for language, Mathematics, Environmental Science, etc. With the entire village becoming a classroom, the open approach facilitated a joyful way of learning and ensured active participation in the teaching-learning process. Thus, the community's awareness of pedagogical issues was found to increase in addition to sustaining their participation.

Improvement of Quality

All children in I to IV standards were provided with competency-based activity cum workbooks, and teachers were provided with teachers' guides. The quality of classroom transaction was also sought to be improved through supplementary materials such as monthly wall newspapers for children entitled Kali—Nali, and material promoting the local rural tongue as opposed to standardised urban Kannada.

Along with supplementary reading material, a variety of material for V E C members, teachers, and educational administrators were also developed. Training programmes were conducted in a participatory mode with the help of full-time faculty at Block Resource Centres (BRCs).

The Nali-Kali Experience

Government schools normally shy away from any change in modes of teaching or learning. However, Nali-Kali was an exception, having created a veritable revolution in classroom transactions. Nali-Kali or 'joyful learning' spearheaded by the teachers themselves was started as an experiment in classroom transaction.

The Nali-Kali programme was a multi-pronged approach to UEE, as it empowered the teacher, made the curriculum relevant (by making it local specific) and promoted learning. Above all, it was child centred. Since the teacher was inducted in this approach at the training stage itself, Nali-Kali broke down the traditional hierarchy that existed between the teacher and the student. In the process, the teacher reviewed the curriculum and prepared the activity cards. All the TLMs were handmade by the teachers and hands-on experimentation was encouraged.

The children joined different groups every day and learned according to their learning levels. While teaching EVS, the children were taken outside to learn the concepts through observation and interaction. The teachers also felt empowered as they created and imparted their own curriculum.

In the first year (1995), 257 teachers from HD Kote were trained. This number rose to 322 in 1999. It was operational in all but one block in Mysore district. In addition, 5 blocks across the state were also covered. Later, all the 10 Janashala Blocks were also converted into Nali-Kali blocks.

Other Interventions under DPEP

Micro Planning was practised by NGOs in development sectors like watershed management and agriculture development. This was adapted in the education sector and covered on a selective basis by DPEP. It employed 5 component activities at the village level—social mapping, seasonal chart, resource mapping, children's survey and children's workshop. Hence it helped people to see village situations in a proper perspective. Several success stories were also reported and the exercise enabled the department to assess the training needs of teachers.

The DPEP conducted 164 VEC melas, 16 Ma Beti Melas, 495 micro planning sessions to bring awareness in the community and motivate them to participate in the programmes of the school. DPEP also supported the establishment of 45 ECCE centres, 2455 ICDS centres and 581 alternate schools. In some of the anganawadis, the timings were extended to coincide with the primary school timings to enable elder children, especially girls, to attend school regularly and for the full day without worrying about sibling care.

Achievements under DPEP

DPEP Karnataka had a string of achievements to its credit.

1. The state was able to tackle the problem of access effectively in educationally backward districts by opening schools in school-less habitations and upgrading lower primary to higher primary schools wherever required.
2. The awareness programmes boosted the enrolment of children in schools. In DPEP I districts it increased from 10.56 lakhs in 1995-96 to 12.08 lakhs in 1999-2000 and in DPEP II districts, it increased from 17.19 lakhs in 1996-97 to 21.92 lakhs in 1999-2000.
3. Nali-Kali was a unique experiment which addressed the issue of teachers handling multigrade situations. The participatory mode of teacher training programmes and improving the curriculum transaction skills of teachers gave them abundant confidence.
4. The concept of MLLs helped improve learning levels among children. The competency-based and activity-oriented textbooks as well as workbooks created a learning environment that had a visible impact on the quality of classroom transaction.

5. Radio lessons (Keli Kali) were very popular as they provided academic support to rural teachers.
6. Education resource materials, teachers' guides and TLMs had a positive impact on the quality of classroom transaction as the teacher had to earlier depend solely on the textbook for teaching.
7. The participatory mode of teacher training, preparation of low-cost/no-cost TLMs and joyful learning techniques helped the teacher to improve his skills which in turn had a significant impact on the classroom processes.
8. The state developed a transparent system of recruitment of teachers.
9. DPEP generated a comprehensive induction programme for new teachers which gave them considerable inputs and built all round capacities in them.
10. The continuous and comprehensive evaluation techniques helped children to overcome the fear of examinations and learn at their own speed.
11. Efforts to involve the community in school management brought the school closer to the community which in turn contributed substantially to the improvement of infrastructure of the school.
12. DPEP helped the state to overcome the shortage of classrooms to a certain extent through construction of additional classrooms.
13. Creation of BRCs and CRCs enabled regular teacher training and provided teacher support and motivation.
14. Holding of regular VEC meetings ensured community participation in school programmes like enrolment drives, providing additional facilities in the school, monitoring progress of learning, etc.
15. There was considerable reduction in dropout rates and repetition rates through enrolment drives, Kala jathas and other programmes.

Deficiencies Noticed in DPEP

The progress in implementation of DPEP was uneven across districts. Non formal education (NFE) system for out-of-school children never really took off. Some of the issues that remained even after implementation of DPEP were—large number of out-of-school children, quality concerns in achievement levels of children, providing continuous resource support to teachers, etc. There was no proper effort to tackle the multigrade systems existing in a majority of schools in the state.

There were several deficiencies in the Nali-Kali system which were not rectified. As emphasis was not laid on learning of compound letters (Othaksharas), children found it difficult to handle textbooks when they reached IV standard.

The entire success of the Nali-Kali system depended on the level of motivation of the teacher and the academic support at the next level of CRC. Keeping up the same level of motivation among all teachers in all the schools was a daunting task. Nali-Kali was also an expensive system and once DPEP was wound up, the state could not replace the worn out cards and materials for several years.

Bowing to persistent demand of the parents for textbooks for their children, the state started supplying textbooks to Nali-Kali schools and hence the very philosophy of the system was diluted as the teachers could not handle both the cards and textbooks simultaneously. Due to frequent transfers of teachers and CRPs, teachers without training were posted to Nali-Kali schools who continued teaching in traditional methods. Hence, the programme could not really take off in several blocks outside Mysore district.

The children, who had continued in Nali-Kali up to III standard, had to revert to the old system in the IV standard the transition from one system to another was not smooth. Even though Nali-Kali was an answer to tackle the multigrade system, efforts to introduce it in the northern districts failed totally due to lack of sustained academic support to teachers and proper monitoring at the school level.

As for programme convergence with ECCE, there was no baseline assessment of children in schools before implementation of the programme. Thus, it was not possible to measure the actual improvement in girls' attendance in the afternoon session. It may be recalled that the anganawadi timings had been extended to be co terminus with primary school timings.

Non Formal Education (NFE)

In recent years, non formal education has emerged as an alternative to formal schooling. The concept of NFE has emerged as a reaction to the rigidity and inflexibility of the formal system. It caters to the needs of those children who are not able to attend regular school.

The reasons for a large number of out-of-school children in the state are –

1. They are children of marginalised groups.
2. 40% of the population are self employed, who do not see value in educating their children and take their help in running their jobs.
3. 35% of labourers are landless who take their children's assistance for supplementing their wages.

DPEP ran 343 NFE centres. Since the thrust of the state was to bring children back to schools, these centres were not very popular as were the functional activities in them.

The Janashala Project

To further complement the state's measures to promote primary education and to supplement decentralised management of elementary education, the UN/GOI joint system implemented a community based primary education project in collaboration with the 5 UN agencies—UNICEF, UNDP, ILO, UNESCO and UNFPA.

It aimed at organising local communities to strengthen primary education and provide replicable models elsewhere. Popularly known as the **Janashala** project, it was implemented in the following 10 selected backward blocks in non DPEP districts having low female literacy: Sira, Madhugiri, and Pavagada in Tumkur district; Arakalagud and Holenarasipura in Hassan district; Hiriyur and Challakere in Chitradurga district; Koppa in Chikkamagalur district; Honnali in Davanagere district; and Haliyal in Uttara Kannada district.

The project envisaged

1. Direct programme interventions;
2. Convergence with existing schemes of the education department;
3. Convergence with schemes of other social sector departments and agencies.

A number of strategies were adopted in implementing the project—teacher training, formation and empowerment of VEC members, micro planning, chinnara melas, etc. Nali-Kali system was progressively adopted in all the schools in the 10 Janashala Blocks and teachers were given rigorous training in preparing activity cards. Attempts were also made to improve quality of teaching-learning transactions at lower primary stage by providing all children in I to IV standards with competency-based activity-cum-workbooks and all teachers with relevant guides. A comparison between the results of baseline and mid term achievements tests indicated visible improvement in the learning levels of children.

Special Initiatives

The following special initiatives of the department of school education have had a significant impact on the drive towards UEE in the state.

Incentives for Girls Education

The state has been providing girls with free education. Girls in government schools studying in standards I to XII are exempted from paying all kinds of fees including examination fees. This has helped reduce dropouts and encouraged girls to continue further education.

In order to promote education among SC/ST girls, school bags and notebooks are supplied to those studying in V to VII standards in government primary schools. The number of beneficiaries in 2005–06 was 1.57 lakhs SC/ST girls.

Free Textbooks (Vidya Vikas) Scheme

The state introduced the freetext books scheme in 1985–86 for SC/ST students studying in government schools in I to VII standards. In 1993–94 this scheme was made available to all students studying in government schools in I to IV Standards. In 2000–2001, it was extended to all categories of students studying in government schools from I to VII standards. In the same year, the scheme included all girls studying in government high schools in VIII, IX and X standards. In 2004–05 it was extended to cover all SC/ST boys studying in VIII standard in government schools. 278 lakhs free textbooks were distributed to 66.14% children who were beneficiaries of the programme in 2005–06.

In 2006–07, the free textbook scheme was extended to all girls and SC/ST boys studying in government aided schools, and all boys in government high schools.

Free Uniforms

Under the Vidya Vikas Scheme one set of uniform cloth is provided free of cost to all children studying in government primary schools and girls studying in VIII to X Standards in government high schools. The number of beneficiaries in 2005–06 was 54.29 lakhs in primary and 4.72 lakh children in high schools.

“Baa Marali Shaalege”—Come Back to School Campaign

In order to celebrate the 2002 Karnataka Rajyotsava Day in a meaningful manner, the department of education mounted a massive campaign of getting children, who had dropped out of school for various reasons, back into the school. The main objectives of this campaign were:

- To enrol all children in the age group 6–14 and get them to attend school through intensive door-to-door campaigns throughout the state;
- To bring back to school children who have been absent for too long;
- To provide bridge courses and remedial teaching to the returning children so as to make their re-entry as smooth as possible;
- To place the children ready for mainstream schooling in regular classes suitable for them.

By the end of 2002, the campaign had succeeded in bringing back to school over 220,000 children, about 50% of them being girls. The effort and the response in the educationally backward districts of NEK were particularly impressive, contributing nearly 50% of the figures for the entire state. Raichur and Koppal districts were right at the top of the list, accounting for 25,000 and 23,000 children respectively.

The success of the “Baa Marali Shaalege” stimulated the department to undertake other campaigns with similar goals and objectives to bring down the huge number of children staying out of school.

Chinnara Angala—A Bridge Course to the Mainstream

The “Chinnara Angala” is an innovative summer bridge course programme aimed at bringing out-of-school children back to schools. A regular school teacher and a para-teacher appointed from amongst the village youth teach the children.

An intensive, condensed form of the curriculum is taught, at the end of which the children are enrolled in the appropriate regular classes. The duration of the intervention was initially proposed to be 60 days. Later, it was decided that it would continue till all children were enrolled into formal school.

The programme was first implemented in the state in April/May 2000. Started on a pilot basis in 10 education blocks, 3,100 out-of-school children were enrolled in the course, with as many as 2,600 from amongst them being mainstreamed into formal schools.

The children census of 2001 revealed that there were 10.53 lakh out-of-school children in the age group of 6–14 years in the state. Hence, the “Chinnara Angala” programme was extended to the entire state in 2001–02 and at the end of it, nearly 82,708 children had been mainstreamed against a target of one

lakh children. In October/November of that year, the programme was again held in the seven educationally backward districts of NEK and 22,244 children were mainstreamed.

During 2003, over 4,800 "Chinnara Angala" centres were opened so as to generate school preparedness among 407,000 out-of-school children. 1,07,000 children, including 50,000 child labourers, were mainstreamed.

Table 6.7
Children Mainstreamed by Bridge Courses

<i>Year</i>	<i>Program held in</i>	<i>No. of Children Mainstreamed</i>
2001	Selected 7 blocks	98,176
2002	All districts	97,508
2003	7 districts of NEK	1,07,425
2004	All districts	1,07,085
2005	All districts	40,842

Source: Department of Public Instruction

While the table shows acceptance of the intervention by the community, it also indicates growing awareness among people about the need for education. In the beginning the programme personnel spent considerable time convincing people about the benefits of the interventions, which was crucial for its success.

The Akshara Foundation has been very active in running this programme in Bangalore. All the existing 194 "Chinnara Angala" learning centres reaching out to 4,600 children in the city have been coordinated by the Foundation with the help of other NGOs like MAYA, Mobility India, APSA, REDS and Rashtrothana Parishat.

Akshara, in collaboration with Madhyam, another NGO, has launched a 100 % enrolment campaign in 30 slums in the city. Along with the field publicity office of the Ministry of Information and Broadcasting, they conducted awareness programmes on "Chinnara Angala" in another 35 slums in the city.

The drawback in this programme was that in several cases, the mainstreamed children were unable to cope with the work load of the regular school and slowly dropped out. The programme did not make any efforts to track these children. There was no external assessment of this programme to find out its impact.

Vidya Chetana—An Alternate School

"Vidya Chetana", started only in NEK, was an alternative school for those children who were not in schools even after the "Chinnara Angala" intervention. The location of a "Vidya Chetana" Centre was selected keeping in mind the students' convenience. The timings for teaching were flexible to suit the child. Classroom transaction started with books prepared specially for the "Chinnara Angala". Once children mastered this, they were tested and given regular books prescribed by the department according to their level of achievement. They were also provided with notebooks, pencils and pens, instrument boxes and textbooks. At the end of the year, the child had the option of choosing between joining regular school or continuing further in the "Vidya Chetana" Centre. With the advent of SSA, this programme was discontinued.

Sarva Shikshana Abhiyan (SSA)

SSA is a project of the GOI, launched in 2001-02 in mission mode in partnership with the states, with the aim of achieving the long cherished goal of UEE, through a time bound integrated approach. It is also a

framework for channelising all central government initiatives in school education through a single agency in order to achieve concurrence at the field level.

It is funded on a sharing basis between the centre and the states, initially at 90:10 and subsequently at 75:25, till the end of the tenth plan. 33% of the expenditure is earmarked for civil works and the programme management cost is fixed at 6%.

Its aim is to provide elementary education of comparable quality to all children. It aims at providing community-owned quality elementary education to all children in the age group of 6–14 years by 2010. It also envisages bridging the gender and social gaps.

Objectives of SSA in Karnataka

The original objectives of SSA, Karnataka were

- All children to be in school by 2003;
- All children to complete 5 years of primary schooling by 2007;
- All children to complete 8 years of schooling of satisfactory quality by 2010;
- Focus on quality with emphasis on education for life;
- Bridge all gender and social category gaps at primary stage by 2007, and at elementary stage by 2010;
- Universal retention by 2010.

Since some of these objectives could not be achieved within the prescribed time frame, the state has revised these objectives again and again. The SSA has thus designed 10 major interventions and 104 programmes/activities within these interventions to realise its objectives.

The strategies central to SSA are:

- Institutional reforms and capacity building
- Sustainable financing
- Community ownership and monitoring
- Focus on education for girls and special groups
- Thrust on quality and teacher development
- Habitation as a unit of planning
- Improving educational administration
- Ensuring accountability

Table 6.8

Project Outlay and Expenditure of SSA for the year 2005 - 06

	<i>In crores</i>
Approved amount from 2001–02 to 2003–04	484.42
Total Amount Released	251.00
Expenditure up to March 2004	226.48
Total Amount Approved 2005–06	435.02
Opening Balance	25.21
Total Amount Released (GOI+GOK)	369.30
Total Expenditure up to March 2005	363.19
Total Amount Released in 2005–06	432.20

Source: Annual Report 2005–06

Teacher Training

The SSA envisages providing 20 days training to every primary teacher in a year. During 2006 – 07, 1,90,828 teachers were trained in both content and methodology. Majority of the programmes were conducted during vacations. SSA envisages a 30-day training programme for the newly recruited primary teachers. DSERT has prepared a 15-day training module “**Prerana**” for newly recruited teachers. The number of beneficiaries of this module during 2006–07 were 4273.

Community Training

DSERT has prepared training modules “**Spandana**” and “**Sankalpa**” for training SDMC members for 2 days. During 2004–05, 45,000 SDMC members were trained. Several NGOs are also involved in this training programme.

Teachers/ School Grants

In 2006–07, school grants were released at the rate of Rs 2000/- per school to 43,732 government primary schools and 2494 aided primary schools. Teachers’ grants were released to all schools at the rate of Rs 500 per teacher. These grants are being utilised for preparation of TLMs.

Free Bicycles to Girls

The state identified the problem of rural girls in walking long distances from their places of residence to reach high schools. In order to enhance the confidence and courage besides reducing dropouts among girls who pass out of VII standard, in 2006 – 07, it introduced the system of providing free bicycles to girls from BPL families studying in VIII standard. Accordingly, the state provided free bicycles to 1,75,023 eligible girls. The cost of each bicycle was Rs 2030 and the expenditure on this account was Rs 35.74 crores. The state extended this program to boys from BPL families studying in VIII standard. The number of boys who benefited under this programme was 2,45,300 and the expenditure was Rs 40 crores.

Construction of Classrooms

A total financial assistance of Rs 6306.39 lakhs from NABARD under the RIDF scheme along with a state share of Rs 700.71 lakhs was obtained for construction of 4895 classrooms in primary schools. During 2004–05, 2844 classrooms were constructed at a cost of Rs 57.30 crores.

Innovative Activities

The following programmes are also being conducted by DSERT under SSA:

1. Keli Kali radio classroom programme is being broadcast from 10 stations of All India Radio (AIR), for students of I to VIII standards covering 55,000 primary schools. Chinnara Chukki (I to III standards) and Chukki Chinna (IV and V Standards) are beamed in collaboration with EDC.
2. Computer Education Project has been taken up in selected 235 higher primary schools. The program is being implemented in collaboration with APF.
3. Edusat programme has been launched in 2004–05 and extended to all primary schools in Chamarajanagar and Gulbarga districts.

Chinnara Karnataka Darshana

It is an innovative activity in collaboration with the Department of Tourism, wherein children of primary schools, especially girls belonging to SC/ST and backward classes, are taken on educational tour to different places in Karnataka so as to give them exposure to the culture of the state. During 2005 – 06, an amount of Rs 197 lakhs was spent by SSA covering 10,100 children.

Education of Girls

Adolescent girls' awareness campaigns were conducted in 2006–07. They aimed at enhancing the self esteem and confidence of girls, including awareness in the fields of education, health, hygiene and related physiological aspects.

Under the National Programme for Education of Girls in Elementary Education (NPEGEL), model cluster schools have been started in blocks having female literacy lower than the national average. This intervention aims at reaching the hard-to-reach girls and efforts are made to retain those who are already in schools. It provides an opportunity to develop context-specific strategies to address learning needs of girls and to focus on community mobilisation and gender sensitisation of teachers in an effective manner.

Kasturba Gandhi Balika Vidyalaya (KGBV) Residential Schools have been started in 61 educationally backward blocks for 5335 out-of-school girls belonging to SC/ST/OBC and minorities in difficult areas. The objective is to ensure access and quality education to girls belonging to economically disadvantaged groups of society.

Cluster Resource Centres (CRCs)

The only resource that is available for improving quality of education delivery at the cluster level is the Cluster Resource Person (CRP) located at the CRC. Under the SSA programme, the CRP is expected to carry out academic, administrative, programme management and community mobilisation functions. The CRP spends most of the time on monitoring and administration, without any resource support at the cluster level. Hence, his role has been widened from being an academic facilitator to that of an educational administrator. A large number of vacancies exist because the post is not attractive.

Cooliyinda Shalege programme addresses the problems of the child labour. **Flexi schools** are night schools started for working children in urban areas. **Baa Bale Shalege** is a programme for out-of-school girls. **Kishori Kendras** were run as residential bridge courses for girls in Bellary and Koppal districts.

Mobile schools, started in 2001–02, are run for slum children, where the children are collected from slums every morning, taken to a spacious place both for teaching and playing, and dropped back in the evenings. In 2005–06, there were 8 mobile schools. Nearly 500 children are mainstreamed every year through the mobile schools.

Samudayadatta Shale is a programme started in November 2000, which tries to take the school towards community. It is held twice a year where parents are made aware of the achievements of their children. The programme is capped by cultural activities of children. All officers including Education Secretary, Commissioners and Directors participate in the program by visiting schools on this day and participate in the activities of the schools. This programme tries to create awareness in the community about the school and achievements of their children.

School and Community

In 2001, SDMCs replaced the VECs. The SDMC has a 3-year term and comprises of 9 elected parent members, 4 ex-officio members and 6 nominated members to ensure parental and community participation in the day-to-day activities of the school. It is supposed to meet once a month to review the functioning of the school.

The concept of National Open School (NOS) was developed to reach the educationally deprived sections and other marginalised groups and ultimately, to broaden the access to education and help dropouts to get back to the mainstream.

Education of Children with Special Needs

The children are identified to be having special needs if they have the following disabilities:

- Hearing disability

- Visual impairment
- Mentally challenged and intellectually impaired
- Orthopaedically/physically challenged/handicapped
- Learning disabilities
- Speech disabilities
- Chronic health problems
- Emotional disturbance leading to behavioural problems

Integrated Education for Disabled (IEDC)

IEDC is considered an important component in UEE. Integrated education, in its simplest form, is providing education to disabled children along with normal children in normal schools with the assistance of specially trained teachers. In this context, the IEDC helps in identifying such children and integrating them in the regular school system so as to facilitate their learning.

During 2005-06, a total number of 81,900 special children were identified under SSA.

Table 6.9
Special Children Identified in 2005 – 06

Visually Impaired	12,968
Hearing & Speech Impaired	20,387
Mentally Retarded	13,808
Physically Handicapped	25,441
Learning Disability children	3,788
Others	5,508
Total	81,900

Source: Annual Report 2005 - 06

A financial provision of Rs 1200/- per child is available under SSA. In 2006 – 07, 1,29,491 children with special needs were identified and 1,17,401 children were enrolled in schools, and 10,327 severely disabled children were provided home based education.

The IEDC scheme (CSS) is being implemented by the Directorate of Urdu and Minorities since August 2004 through the DIETS. The scheme is implemented by 117 NGOs and covers 34,706 disabled children studying in 6188 schools with 1931 resource teachers. The purpose of the scheme is to provide educational opportunities for disabled children in common schools and enable them to face life with courage and confidence. The budget for this scheme was Rs 1010.23 lakhs in 2006-07.

The state also provides a number of incentives like allowances for books, stationery, uniforms, transport, readers, hostel facilities, escort, equipment, etc.

Issues in Supervision of Elementary Education

At present, supervision of elementary education at the block level is the responsibility of the Block Education Officer (BEO). He is also responsible for the supervision of secondary education within the block as also private aided and unaided (primary and secondary) schools.

With the unprecedented growth in the number of schools and enrolment, there are more than 1000 teachers in a majority of the education blocks. The BEO is the appointing authority and hence, the disciplinary authority, for all elementary teachers in the block. With a limited staff, he has to take care of their service needs like sanction of long leave, increments, fixation of salaries, and disbursement of monthly salaries to all the elementary teachers, etc.

Besides, the BEO has to regularly attend meetings called by the ZPs, TPs, District-in-charge Ministers/ Constituency MPs/ MLAs and other district and taluk level official functionaries like the DC, Assistant Commissioner, Tahsildar, etc. He has to invariably participate in all kinds of work entrusted by the district administration like census, elections, etc. He has to organise functions on National Days and conduct sports events at the block district level. He has to accompany all the higher level visiting department officers.

The BEO has to implement all the departmental programmes within his block – enrolment drives, distribution of incentives like uniforms and textbooks, distribution of school grants/teacher grants, supervision of programmes like Akshara Dasoha, construction of school buildings, collection and submission of statistics to district/state level offices, etc. After all this, if he is academically inclined, he may visit some schools. Thus, the main casualty becomes the academic supervision and monitoring of schools. Of course, there are BRPs/CRPs/education coordinators who regularly visit schools; also every school has a SDMC. Yet, none of them carry the authority of the BEO.

Midday Meals Programme

The Evolution of the Program

The Midday Meal Programme was in existence in the princely Mysore state in as early as 1946. In 1951–52, the department had sanctioned Rs 3.70 lakhs for the midday lunch programme. Under this scheme, 9366 children in 1957 middle schools and 25 high schools were covered. The main objective of the programme was to provide nutritious food to children coming from poor and weaker sections apart from improving their attendance.

A universal midday meal programme was started in the state in 1963 in selected blocks, with assistance from CARE (Cooperative for American Relief Everywhere). The coverage reached a peak of 15 lakh children in 1976–77, when the Central Kitchen Scheme was introduced. The program supported both pre primary education and primary education till 1984–85, when CARE assistance to pre primary education was discontinued. CARE assistance was finally wound up in 1993–94.

Energy Food and Ahara Yojana

The state government introduced its own scheme called “Energy Food” program in 1980–81 on the basis of a nutrition formula developed by the CFTRI, Mysore. 5.62 lakh children benefited from this program in 1990–91. In 1993–94, the state government introduced the Ahara Yojana for all children studying in I–IV standards. It continued till mid August 1995 when it was merged with the GOI sponsored National Programme of Nutritional Support to Primary Education in 1995.

Ksheera Yojane

The scheme was introduced in 1989–90 to provide nutritious milk to all pre primary and primary children to improve enrolment, attendance and retention in schools. But the scheme was later discontinued due to difficulties associated with storage and distribution.

Nutritional Support Programme

In order to improve the nutritional condition of children and motivate them to attend school, the nutritional support programme was introduced by the state government. Through this program, the state government started distribution of 3 kg of wheat or rice per child per month (through the fair price shops). The food grains were given to all children studying in I to V standards in government and aided primary schools, subject to the children maintaining an average 80% attendance per month. The entire cost of the scheme was borne by GOI.

The Akshaya Programme

The scheme, introduced in 1991–92, was meant for ensuring attendance and reducing dropouts among children of I to IV standards. If a child had a minimum of 80% attendance during the month, then the parent was to be paid at the rate of Re 1/- per child per school working day. However, the scheme was dropped as there were logistical problems in accounting, auditing and follow-up work.

The Akshara Dasoha Programme

The programme of providing hot cooked midday meal was introduced in 7 Northeastern revenue districts of the state during 2002–03. The scheme was extended to the remaining 20 revenue districts during 2003–04 under "Akshara Dasoha". The scheme was further extended to cover children of I to V standards in government aided schools with effect from 1 September 2004 and students of VI and VII standards of all government and aided schools in the state from 1 April 2005. A total of 43,414 government schools and 2830 government aided schools (total 46,244 elementary schools) were covered under this programme. There were 38,926 kitchen centres and 96,064 cooks in 2005–06. Details of beneficiaries of the scheme are given below:

Table 6.10

Beneficiaries of Akshara Dasoha Programme

Figures in lakhs

Standards	Govt. Schools	Aided Schools	Total
I–V	36.00	4.67	40.67
VI–VII	13.23	2.14	15.37
Total	49.23	6.81	56.04

Source: Annual Report 2005–06

The budget allocation for this programme in 2005–06 was Rs 258.84 crores. The central government provides 100 grams of rice/wheat and conversion charges of Rs 1.50 per child per day whereas the state government spends Rs 3.16 per student per day.

In 2006–07, the state budget allocation was Rs 253.47 crores. Rs 26 crores were released for construction of kitchen centres at the rate of Rs 5000/- per centre. Rs 72 crores was given by centre towards equipment, and Rs. 33.46 crores towards construction of kitchen centres.

The government departments of Revenue, Rural Development, Health and Women and Child Development take active role in implementing the programme. Members of the GP and SDMC monitor the scheme at the school level.

The objectives of the programme are

- To improve enrolment and attendance in elementary schools;
- To improve retention;
- To improve health of the children by increasing nutrition levels;
- To improve learning levels of children.

Hot cooked midday meals are provided for 244 days in a year. 53 NGOs (including Akshaya Patra Foundation) and mutts have been participating actively and adding value to the existing government programme. In 2005–06, these NGOs covered 2012 primary schools and 4.71 lakh children. In 2004–05 and 2005–06 the government covered children of drought hit taluks under the hot cooked midday meal scheme during summer holidays also.

Detailed guidelines have been provided to each school regarding

- The nutrition content of the food to be provided;
- The type of food that may be prepared on each working day of the week;
- The method of cooking and supervising the same;
- Cleanliness, safety and economy criteria to be observed;
- The quantity and quality of the food to be provided to each child;
- Selection of cooks and support staff;
- Roles and responsibilities of different categories of supervisory and executive staff;
- Roles and responsibilities of the school teachers and head teachers;
- Maintenance of official records.

Preliminary findings, indicating a significant improvement in the enrolment, attendance and retention of children in schools as a result of the successful implementation of this massive programme, are as under:

- 2 to 10 % improvement of attendance across the state;
- Children are more attentive inside and outside the classroom;
- Nearly a lakh women have been given parttime employment as cooks;
- Coordination between various field departments and voluntary organisations;
- The programme also helps in achieving social and educational equity at the field level.

The government has extended the programme to cover all children studying in government and aided secondary schools in the state from the academic year 2007–08.

Akshaya Patra

With the dedicated purpose of liberating poor children from the vicious cycle of hunger and illiteracy, the Akshaya Patra Foundation under the aegis of ISKCON came into being in the year 2000 and has since been providing free, nutrition-rich midday meals to thousands of underprivileged children in and around Bangalore. With a humble beginning of feeding 1500 under-served children in Bangalore, the programme has grown to reach half a million children in 5 states across India. The programme utilises the food grains as well as the conversion charges provided by the government. One of the most important social initiatives in India, the Akshaya Patra midday meals programme has documented benefits such as:

1. Protecting children from hunger and improving their nutrition;
2. Increasing school enrolment, attendance and school performance;
3. Improving socialisation among children – the experience of sitting together and sharing a meal irrespective of caste, gender and status is a social leveller;
4. Empowering the girl child, in particular.

In Bangalore, the hot cooked midday meals are supplied to 1.45 lakh children studying in 533 government, aided and corporation schools. In collaboration with the BBMP, the programme also offers free meals to 1507 pregnant and nursing women from the marginalised sections of society.

The programme status in the state as in 2006-07 was:

Table 6.11
Akshaya Patra Scheme

Location	Number of Children	Number of Schools
Bangalore	1,45,000	533
Hubli-Dharwar	1,54,510	647
Bellary	32,590	89
Mangalore	10,500	51
Mysore	6,100	19
Total	3,48,700	1339

Source: ISKCON-Akshaya Patra Foundation

Besides, the Akshaya Patra programme has initiated the concept of mechanisation of its kitchens which is worthy of emulation by other NGOs. The mechanised kitchen in Hubli Dharwar is based on the principle of gravity. It has potentially increased the operational efficiency of the kitchen. It also complies with ISO 2200 standards which meet the highest standards of hygiene and cleanliness. The Foundation is continuously making improvements in the infrastructure, bringing about quality control measures and raising funds for the massive programme.

Chapter 7

Quality Issues in Elementary Education

Achievement of UEE is a significant goal that the state has been striving to achieve through programmes relating to access, enrolment, retention, participation and achievement. All these issues are closely linked with quality of education being provided and consequently, learning that takes place in the state schools. The purpose of many of these programmes is to work with students whose quality is known at the entry level and take them gradually to better levels through the teaching-learning processes.

While enrolment, attendance and retention have all shown an upward trend, the same cannot be said of the quality of education that the children are getting in schools. The vast expansion in educational opportunities witnessed in the last 10-12 years appears to have been, at least partly, at the expense of quality. However, attention is now shifting towards efforts focusing on quality in school education.

Assessment of Quality

The assessment of quality in education has both objective and subjective dimensions. In assessing the quality of educational services, inputs and processes, long term objectives are more relevant than short term ones. Views, opinions and individual perceptions are as valuable as conclusions based on quantitative information. In the perception of parents, for instance, private schools score over government schools, and English medium schools are considered to offer better quality of education than their vernacular counterparts.

Perceived Indicators of 'Quality'

The most important indicator of 'quality' of a student as perceived by parents, teachers, educational administrators and the society at large, is the 'marks' scored or the 'class' obtained by him/her in an examination. Similarly, the primary indicator of 'quality' of a school is the percentage of passes/percentage of first classes obtained by it in a 'public' examination. But, pupils' achievement scores per se cannot be taken as a measure of quality as there are other indicators which are equally important such as, the discipline in an institution, the quality of teaching, infrastructure facilities provided by the institution, 'reputation' of an institution, the reputation of teachers in the institution, the number of prizes won by students in co curricular activities, etc.

Factors Affecting Quality at the Elementary Level

Some of the important factors affecting the quality of education at all stages are—the quality of students at the entry level, curricular content and TLMs, the quality of the teacher, classroom transaction processes, quality and level of evaluation systems, quality of supervision prevalent in the system, pupil-teacher ratios (PTRs), children's social and family background, etc.

One of the most important factors that determines the quality of education is the teacher. The state has taken several steps to improve teachers' quality by fixing higher entry qualification (+2 stage and diploma in education) for elementary teachers, revising their salaries to attract better talent, revising the teacher training curriculum, improving in-service teacher training programmes, etc.

The inevitable issue of multigrade teaching prevalent in a majority of government schools is one of the factors impeding quality. Programmes like Nali-ali (dealing with multigrade situations) could not be upscaled or replicated elsewhere due to a number of reasons.

The upper primary stage needs more serious attention. Subject diversification, along with an enriched curriculum, is prevalent at this stage. A third language (usually Hindi) is introduced at this stage and teachers are not equipped to handle it. The dropout rate at this stage is still high. The elementary teachers who are general teachers in nature with PUC qualification are unable to handle enriched individual subjects at this stage. The state made an attempt to induct subject teachers at the upper primary stage but even their qualification is only PUC. The recommendation of the Task Force and the Perspective Plan Committee to appoint graduate teachers for upper primary classes has not been implemented by the state so far due to financial constraints. Another critical requirement for improvement of quality is the monitoring of quality of output in schools. The BRC and CRC structures created under DPEP have been extended to the entire state and strengthened under SSA.

The monitoring of quality which was started under the Learning Guarantee Scheme (LGS) was extended to the entire state and is being done periodically from 2006 through quality assessment of students by KSQAO. However, covering 60,000 individual primary and secondary schools through effective supervision has not been either regular or systematic.

The sub sector Study on Elementary Education (2001) has listed some of the important factors affecting quality:

1. Low quality of teaching in government schools is a major factor affecting retention of children, especially in government schools;
2. Inadequate teacher preparation and lack of quality training to handle all subjects in multigrade situations;
3. Inadequately qualified and trained teacher educators who have no experience of handling primary classes are today training our student teachers;
4. Low quality of textbooks and inadequate instructional materials;
5. Poor performance of students in English, Science and Mathematics in upper primary and secondary classes;
6. Unreliable examination system, improper evaluation procedures for assessment of students' performance;
7. Teacher absenteeism (discussed earlier) and leaving students without instruction in a particular subject for long periods of time;
8. Low achievers opting for teachers' jobs.

Strategies Adopted by the State to Improve Quality

One crucial and identifiable parameter of quality of education is the improvement in the learning levels of children. Several studies have shown that a majority of children do not attain the minimum achievement levels prescribed for a particular class. Hence, the major area of concern in primary education is the quality of instruction being provided in our schools which is resulting in low achievement levels among children.

Several interventions have been initiated by DPEP/ SSA and DSERT to improve quality and the learning levels of children in schools, such as:

1. Qualitative improvement in curriculum and content;
2. Improvement in classroom teaching-learning processes;
3. Improvement in learning environment of the school;
4. Reorientation and strengthening of teacher education;
5. Provision of appropriate infrastructure facilities;

6. Focusing on strengthening the institutional management processes;
7. Establishing a real system of learner assessment;
8. Improvement of community support services.

Several studies have shown that positive interventions in making curriculum transaction child-centred have produced positive results over a period of time. Some of the academic interventions undertaken by the state to improve quality are discussed below.

DPEP Interventions

The DPEP introduced important innovations in curriculum reform, textbook revision and teacher training, thus moving towards a child-centred and activity-oriented pedagogy. But in spite of these interventions, the learning levels were still low as was evident from the DPEP assessment surveys (BAS, MAS and TAS).

Nali-Kali and Keli-Kali are products of DPEP. All these approaches to teaching-learning processes have transformed the classroom transaction to a large extent. Nali-Kali was also implemented in 10 blocks under the Janashala program. Though there are some limitations such as need for high motivation amongst teachers, acceptance by the parents, participation of the community, etc., this approach is an ideal solution to our present-day requirement at the lower levels of elementary education.

Keli-Kali, a radio broadcasting programme for III, IV and V standards, was widely accepted by teachers and children. This provide not only additional resource material but also helped in improvement of quality of child's learning and enrolment. Further it broke the monotony in the classroom. DPEP also gave impetus to development of competency-based and activity-oriented textbooks in primary schools. Textbooks became child friendly, attractive and colourful, doubling up as workbooks.

Sarva Shikshana Abhiyan (SSA)

SSA can be viewed as an extension of DPEP in mission mode. A majority of the programmes taken up under DPEP have been continued under SSA as well. Whereas DPEP covered only 16 districts, SSA now covers the entire state.

Some of the SSA interventions which pertain to improvement of quality in elementary schools are: recruitment of additional teachers, provision of school grants, teacher grants, supply of TLMs to schools, and teacher training. SSA also supports the annual statewide evaluation of students of elementary schools taken up under KSQAO.

District Information System for Education (DISE)

After the implementation of SSA, a computerised District Information System for Education (known as DISE) is operational which looks into several quality related parameters—pupil-teacher ratio, teachers' profile, evaluation results, etc.

In addition, MHRD has recently operationalised a quarterly quality monitoring system to monitor student attendance, teacher availability in schools, classroom practices and academic supervision provided by BRCs/CRCs. These tools are supposed to provide grade, subject, gender and social category-wise quarterly data on pupil achievement levels.

Measures to Improve Quality

The sub sector Study on Elementary Education (2001) has recommended the following measures to improve quality:

1. Best teachers to be assigned to the first grade;
2. Enforcing the school calendar strictly—A minimum of 220 working days to be followed by every school;

3. Providing incentives to teachers who work in remote areas;
4. A well thought-out transfer policy which would include the following points;
 - (a) Fill up teachers posts in remote areas on a regular basis;
 - (b) Take into consideration needs of schools, not teachers;
 - (c) Transfers not to be made throughout the year as it affects the academic work of the schools;
 - (d) Excess teachers' posts to be shifted to needy schools after a school mapping exercise in June every year;
5. Decentralising administration of schools to local communities.

Of these recommendations, only the school calendar has been extended as already discussed in the previous chapter.

Teacher Professionalism and Motivation

Historically, teachers' associations (both at the state level and district/ block level) have played a vital role in raising the academic quality of teachers. Several head teachers' associations fund and conduct periodical orientation training for teachers, produce academic material—material for bridge courses, question banks, annual/monthly programme of work and teachers' guides.

Teachers are also periodically trained by state agencies like DSERT/ CTE/DIET/BRC in collaboration with other agencies like NCERT/NIEPA/RIE/SSA etc. These training programmes are mostly in cascade mode and are discussed in the chapter "In-service Training".

Minimum Levels of Learning (MLLs)

In order to ensure access to education of a comparable standard to all learners irrespective of caste, creed, location or sex, the concept of MLLs emerged as one of the basic strategies. An effort to combine quality with equity, keeping in view the development needs of learners from all sections of society, generated a need for identifying certain essential MLLs for each stage of school education. The concept of MLLs is holistic and flexible, and is envisaged as learning outcomes that must be achieved at the end of a particular stage.

Measurement of Achievements in Learning

The NPE 1986 brought to the forefront the need for focusing not only on quantitative aspects but also on quality in terms of achievement levels. A committee constituted by the MHRD specified the essential competencies to be attained by children across the country at the primary stage in the form of MLLs in preferred subjects such as Language, Mathematics and Environmental Studies. The objective was to lay down expected learning outcomes at a realistic, relevant and functional level, and prescribe such measures as to ensure that all children completing the primary stage of schooling achieve them.

The state adopted the MLL model and worked out a well defined set of competencies for each class up to IV standard as a measure of quality at the primary level. As per the MLL document, 80% or more of children mastering at least 80% of the prescribed learning levels is the performance target for every teacher.

MLLs provide a sense of direction and a certain amount of accountability while the MLL approach helps the learners master the specified set of competencies in each unit before moving on to the next one. They do not merely serve as indicators of a learners' progress, but are also used to identify the appropriate sequence of learning. The approach is based on the elements of mastery level learning, child-centred and activity-based teaching, continuous and comprehensive evaluation, diagnostic and remedial teaching, and differential treatment to optimise achievement levels.

Defining Competencies

MLLs can be stated in various ways to specify the learning outcomes. They can also be defined in terms of competencies to be achieved. Competencies are the product of understanding, skills, beliefs and attitudes an individual exhibits in a given context after being exposed to experiences in the curriculum.

The DSERT has listed the following competencies under various heads to be gained by the child after completing every level of education: Language, Mathematics, Environmental and General competencies. Each competency is interlinked, has multiple dimensions and a variety of implications. They have been listed grade-wise and carried forward to higher grades.

Language Competencies

- Ability to speak, read and write effectively
- Comprehension of ideas
- Knowledge of functional grammar
- Ability to write simple sentences
- Ability to correspond through letters

Mathematical Competencies

- Understanding of whole numbers and numerals
- Knowledge of basic mathematical skills— addition, subtraction, multiplication and division
- Ability to solve day-to-day problems using basic numerical skills
- Ability to understand units of money, length, weight, capacity, area and time
- Ability to use fractions, decimals, percentages
- Understanding of geometrical shapes and spatial relationships
- Development of logical thinking through acquired skills
- Memorisation of mathematical tables for use in daily life

Environmental Competencies

- Awareness of social and natural environment
- Appreciation of importance of the world of work
- Protection of environment
- Principles and practice of health and hygiene of self and surroundings
- Causes and effects of pollution of environment

General (Knowledge) Competencies

- Knowledge of village, taluk, district, state and country—administration, concept of rule of law and democracy
- Knowledge of freedom struggle, national leaders, scientists and literary personalities
- Awareness of current events
- Utilisation and appreciation of natural resources
- Simple concepts of geography

Human Values

- Respect towards teachers and elders
- Religious tolerance and secular outlook
- Awareness and respect for fundamental rights and duties
- Displaying values pertaining to beliefs and moral conduct

These competencies are further stated as behavioural outcomes for purposes of evaluation. Progress cards were designed to assess the achievements of children in each competency through a continuous comprehensive evaluation system. Training programmes were conducted for all primary teachers with respect to competencies to be developed based on MLLs. From V to VII standards, learning outcomes were clearly defined and listed for each content area of the subject. Since the evaluation was left to the teachers within the school, the assessment of children varied from school to school and very often was not reliable.

DPEP Learning Achievement Surveys

The state revised the curriculum and textbooks and also initiated a programme for measuring learners' achievement through continuous and comprehensive evaluation techniques. DPEP set a target of raising the achievement levels by 25% during the project period. In order to assess the level of success in realizing the DPEP objectives after 5-6 years, a TAS covering all the districts of Phase II was compiled by the R V Educational Consortium in 2002-2003.

A comparative analysis of standard I-II and III-IV students' achievements on BAS tests conducted using the same set of tests administered in 2000-2001 under TAS showed some positive trends. Achievement of students in DPEP II phase districts under the 3 assessment surveys is given below.

	BAS	MAS	TAS
• I/II Std (Language)	55.9	70.75	71.60
• I/II Std (Mathematics)	49.80	70.00	71.63
• III/IV Std (Language)	35.67	46.65	50.86
• III/IV Std(Mathematics)	39.75	45.52	47.50

BAS – Baseline Learning Assessment Survey

MAS – Midterm Learning Assessment Survey

TAS – Terminal Learning Assessment Survey

As the above assessment survey results indicate, there was significant improvement in learning levels in I/II standards both in Language and Mathematics whereas at the III/IV standard levels, the improvement was not that significant.

According to the survey "the variation between rural-urban performances was marginal and this supports the achievement of reducing rural-urban gaps". The overall average achievement in Mathematics tests in different districts was about 46% in the TAS in 4 out of 7 districts. For gender-wise comparison, there was no significant variation in achievement in language at BAS, MAS and TAS levels. The difference between 'means' of girls and boys was very small and often statistically insignificant. For category-wise comparison, there was no statistically significant variation among SC, ST and others.

The district-wise achievement results in BAS, MAS and TAS can also be seen in Tables EE 11 and EE 12.

Students' Learning Achievement – National Achievement Surveys

The NCERT conducted a baseline sample survey for children of standard V in 2000 and those of standard III in 2003. This survey covered 29 states, 111 districts, 5293 school, 8533 teachers and 92,407 children, constituting a representative sample of students across districts in 3 areas—Mathematics, Language and EVS. In standard III, the mean achievement in Mathematics was 58.25 and 63.12 in Language. In standard V, the mean achievement in Maths was 46.51, in Language 58.57, and in EVS 50.30. The performance of Karnataka children was below the national mean of standard V in Maths.

The standard VII/VIII study taken up in 2003–04 covered 30 states/ union territories, 105 districts, 4124 schools, 17,139 teachers and 1,01,066 students. The mean achievement was 29.87 in Maths, 53.00 in Language, 35.98 in Science and 32.96 in Social Studies. The performance of Karnataka students was poor as it was below the mean in all the 4 subjects. In terms of overall performance, Karnataka has been classified as a better performing state only in III standard.

Learning Guarantee Scheme (LGS)

Azim Premji Foundation in collaboration with the Department of Public Instruction launched the LGS in the 7 backward districts of NEK in 2002–03. It was not an interventional effort but a methodology to identify the schools that can guarantee certain MLLs in children. This scheme aimed at identifying and encouraging good primary and higher primary schools in the region and encouraging other schools to emulate their good practices.

All government lower primary schools and higher primary schools in 48 education blocks in the 7 districts (numbering around 9,000 schools) were invited to participate in the scheme. Over 1,900 schools in the region volunteered for the same. A preliminary survey of a small sample of these schools in one district indicated significant levels of heightened interest and enthusiasm for accepting and meeting the challenges posed by the scheme.

The objectives of the scheme were:

1. All the children (of school going age) within the habitation must be enrolled in the school.
2. All the enrolled children must attend the school regularly.
3. All the children attending regularly must attain the expected levels of achievement. In other words, the school was to guarantee the learning of every child in the school.

The APF volunteers assessed schools that had come forward to get themselves evaluated under this scheme. Even though the number of schools which attained the objectives of this scheme was quite small, the scheme created a significant impact among all the schools of the region. (Refer tables EE 26, EE 27 and EE 36)

The completion of 2 years of the LGS by the APF encouraged the government to expand the assessment of schools to all the districts of the state in 2005. Accordingly, 32 primary schools were identified in each of the 202 blocks for the exercise, thus making it a total of 6464 schools.

The evaluation was carried out in 2 phases. In the first phase, the identified schools were evaluated by teams formed by the state government comprising DIET lecturers, CRPs and Head teachers of other schools. The short-listing process generated 800 (or 12.4%) of the 6464 schools that participated in the first phase.

The largest contribution to the short-listed group came from districts of Uttar Kannada (148 schools), Belgaum (52), Hassan (47), Bangalore Rural (44), Kolar (43), Mandya and Tumkur (42 each) and Chikkodi (40). In phase II 352 schools emerged successful with 90% competency achievement criterion, representing 44.0% of the 800 schools that were evaluated. When the performance was analysed against an 80% competency achievement criterion, 579 schools out of 800 emerged successful (72.4%). This was a very good experiment in inculcating a sense of quality among all the schools and teachers and was a forerunner of the Karnataka School Quality Assessment Organisation (KSQAO) programme.

School Quality Assessment

The state adopted the World Bank consultant Dr Saliba's report on school quality assessment and initiated steps to have a common evaluation system for all elementary school children in the entire state under the aegis of the newly created KSQAO from 2005–06.

The State and SSA have funded the activities of the organisation. The evaluation taken up under KSQAO has been discussed in detail in chapter 14.

Measures to Improve Quality

1. Creation of DIETs and CTEs

The NPE 1986 gave importance to teacher education with special emphasis on giving quality training to primary teachers. Under a centrally sponsored scheme of restructuring and reorganisation of teacher education, 20 DIETs were established in the state to organise pre-service and in-service training courses for elementary school teachers and for personnel working in non-formal and adult education. 7 more DIETs were established in 2005 in the newly formed revenue districts.

Under the same scheme, 6 government and 4 private colleges of education in the state, were upgraded as CTEs and one college—R V Teachers' College—was upgraded as Institute of Advanced Studies in Education (IASE).

The CTEs and IASE were required to combine the twin functions of training of secondary school teachers as well as of elementary teacher educators.

2. Creation of BRC and CRC Structures

Under DPEP, BRCs were set up for planning, management and supervision of in-service training of primary school teachers and other functionaries at the grassroots level. CRCs were set up to provide direct academic resource support to primary teachers in a cluster of schools. Originally each cluster consisted of 10–15 schools with 40–50 teachers. The CRC provided information about the monitoring of implementation of departmental programmes. BRCs and CRCs which came into existence in the DPEP districts were later started in other districts also by SSA. This has helped in bringing uniformity in training and monitoring throughout the state. The role of CTEs/DIETs, BRCs/CRCs has been discussed in detail in the chapter on In-service Education.

3. Academic Supervision of Schools

The Head teacher acts as an internal academic supervisor of the work of teachers in the school. He/She is expected to perform various academic tasks like supervision of annual plan, program of work, lesson plans, classroom teaching, timetable, home assignments, institutional plan, attendance, tests and examinations.

Education Coordinators, CRPs, BRCs and BEOs at the primary level are supposed to conduct academic supervision of schools. At the secondary level, the Head teachers, subject inspectors, educational officers and DDPI are supposed to periodically supervise the schools academically.

4. In-service Training in DPEP Districts

DPEP made an earnest attempt to get the feedback from the teachers on the type of training they require and the gaps in the existing training programmes. During the experience-sharing workshops with teachers, questions raised by the primary school teachers helped trainers develop new methodologies.

Salient features of DPEP training programmes were

- A participatory mode of training was evolved
- A standard design of a teacher training workshop was evolved
- Capacity building of teachers happened to be the priority area
- In-service training got institutionalised
- Most of the government school teachers in DPEP districts were covered under these programmes
- Several types of training packages like Adona Baa, Nali-Kali and Kali-Nali, were evolved.

A 10 day orientation course in attitude and communication skills was developed. However, the participation by the teachers was found to be not satisfactory probably because of the long duration.

Hence, the same was reduced to 6 days and training modules were provided. Supplementary reading materials were also provided. Through the introduction of 'Adona Baa' the in-service programme became a participatory one.

5. Improvement of Science Education

MHRD formulated a centrally sponsored scheme for improvement of the quality of science education in schools. It aims at promoting scientific temper and interest among students and teachers. The major components of the scheme are the supply of science kits and science books to higher primary and secondary schools, and training programme for science and mathematics teachers. Colour TV sets, VCRs and science films are also supplied to selected schools.

The state upgraded 224 government secondary schools (one per assembly constituency) in 1999–2000 and provided them with well equipped science centres. It also trained two teachers from each science centre to conduct scientific experiments and science related activities like science clubs, science seminars, science exhibitions. Every year, a contingency fund was provided for maintenance of these centres.

6. Other Quality Initiatives

There have been very good academic interventions aimed at improving quality in the past like Nali-Kali, Chaitanya, etc. Here, we discuss certain other interventions initiated by other agencies working in the education field in the state.

(i) Balasneha Shale Programme

This programme has been taken up (by APF) in Sholapur and Surapur blocks of Gulbarga district to enhance the involvement of SDMCs in the School Development Program (SDP) in order to impact the quality of learning. The programme envisages a list of indicators that will help monitor the school quality. The programme has 3 points of focus.

- (a) Emphasis on teacher development where the Head teacher is not ignored but is recognised in a leadership and supportive role.
- (b) Monitoring the learning levels of enrolled children to find out whether it is commensurate with the expected learning levels in the respective classes.
- (c) SDP in which the specific needs of each school are identified and community support is enlisted along with the panchayat raj institutions and the SDMCs to implement the SDP. The approach involves a detailed process beginning with the development of a vision for the school leading to the establishment of a mission statement for each school, thinking about the problems of the school as a group, identifying resources, distributing responsibilities, and monitoring the process through measurable performance indicators and establishing a fixed time frame for these activities.

(ii) Language Development Programme

This programme is being implemented in 28 schools of Chamarajanagar district as a part of District Quality Education Project (DQEP) of NIAS. The basic philosophical approach to language teaching forms the basis of the programme – talking, listening, reading, writing and comprehension and the importance of "local" language experiences becoming a part of the classroom. The new component in this programme is the aspect of "oracy" which is being recognised as important in classrooms where there are more first generation school goers and where there is considerable difference between home language and school language.

DQEP has also been able to integrate art activities as part of subject teaching. The key challenge is to encourage teachers to recognise that art is not merely an extra curricular activity, but is beneficial for the

cognitive and social development of the children, and should therefore be integrated into the teaching of all subjects such as Mathematics, Environment and Social Science.

(iii) Kalikayatna

"Kalikayatna" taken up in collaboration with an NGO, Maya, in the Bilikere cluster of Hunsur block, Mysore district, refers to efforts to redefine learning with a focus on 'how children learn' rather than 'what they learn'. The programme attempts to integrate learning and evaluation as a continuous process. It de-emphasises the importance of the textbook and the curriculum revolves around the competencies of children. Each child is responsible for constructing his/her knowledge. Participatory learning approaches are followed during classroom interaction as a result of which each child can develop competencies at his/her own pace.

Quality Improvement Initiatives

Karnataka has been a pioneer in implementing several quality initiatives and also has several notable achievements to its credit. Some of these initiatives are discussed below.

1. Education Reforms – The Trimester Scheme

The Trimester scheme was introduced in the state in standards V to IX from 2004–05 in a bid to improve the quality of classroom transaction and evaluation of children. The objective of the system was to make learning more meaningful so that it takes place throughout the academic year. It was also designed to remove the fear psychosis around the system of examinations, as well as the habit of testing the learner's memory only, apart from bringing the education system closer to the average child. The details of the scheme are given in the annexure.

2. Teleconferencing

Karnataka has been using the distance education mode for a decade. The extended C-band uplink is situated at Sri Abdul Nazir Sab Institute for Rural Development (ANSIRD), Mysore, with 200 Receive Only Terminals (ROTs). 20 such terminals are located in the DIETs of the education department. The programmes are run on one-way video and two-way audio (phone or fax) format. This facility was being effectively used by the education department for teacher training on a large scale.

3. The Edusat Project

The MHRD and Indian Space Research Organisation (ISRO) conceived the idea of using information and communication technology (ICT) for distance education projects. The success of the collaborative effort between IGNOU and ISRO spurred ISRO to launch an exclusive satellite (EDUSAT) for taking up distance education projects in the country on a larger scale. ISRO selected Karnataka for the pilot projects in primary education and technical education.

For the primary education pilot project the backward and southernmost district of Chamarajanagar was selected. 885 primary schools were provided ROTs by ISRO. This was further extended to another 885 primary schools in the educationally backward districts of Gulbarga and Yadgir. The hub and uplink facility was set up at DSERT, Bangalore. Two video lessons are broadcast every day, which are received by all the primary schools having ROTs. Each video lesson is repeated once more in the same week which helps children who were absent on a particular day to view the lesson again. This also helps to reinforce concepts in other children.

Every primary school is provided with a teachers' handbook containing the broadcast schedule in advance. This helps the teacher to integrate the video lesson into the classroom teaching. The handbook also provides a one-page handout containing the objectives and content of the lesson, pre broadcast and

post broadcast activities that the teacher has to take up in the classroom as well as evaluation. All the classroom teachers were trained in the use of these video lessons in classroom teaching. The concurrent evaluation of the project was entrusted to Regional Institute of Education, Mysore.

Further, the SSA funded the setting up of ROTs in all the BRCs which has enabled taking up of teleconferencing both for teacher training and communication of administrative matters to the field staff. In one day, 10,000 teachers can be trained simultaneously in the teleconference mode using this facility. Further details of the project are given in the annexure.

4. Chaitanya Training Programme

Karnataka was one of the few states where the modified version of SOPT (Special Orientation for Primary Teachers) was successful. The success of this programme was due to the integration of the content from SOPT, methodology from DPEP and certain special features from Nali-Kali. Chaitanya programme evolved as a modified SOPT and included the following pedagogic issues: Nali-Kali, activity-based methodology, MLLs, multigrade teaching, integrated education for the physically challenged and gender sensitisation. It envisaged empowering the teacher to make learning joyful for the child. All the lower primary teachers in the state were trained in the Chaitanya programme.

Though this programme helped in joyful learning by children some transmission loss was noticed due to the cascade mode adopted in the training. Further, the administrators were not given training, initially leading to confusion. However, this lacuna was set right later by giving training to administrators, educational coordinators and teacher educators as well. Based on the Chaitanya and Nali-Kali models, new child-centred textbooks with activity-based methodology were introduced in all the classes.

5. Chaitanya II (for HPS teachers)

Chaitanya II for teachers of higher primary schools is an advanced version of Chaitanya. The training module was prepared in 5 disciplines, viz., Kannada, English, Mathematics, Science and Social Science. The modules were prepared in Kannada, Urdu and Marathi languages. Though the methodology followed in Chaitanya was adapted, more importance was given to the content. Teachers too concurred that at this level children need to attain mastery in content. 80,000 teachers of HPS were trained in Chaitanya II.

6. Nali-Kali

The Nali-Kali method of classroom transaction not only gives greater autonomy to the teacher but also creates the right atmosphere for the child to learn in a friendly and joyful way. Learning takes place systematically in an interactive manner in groups organised according to age-wise competencies. When children master the competency of one group, they move on to the next competency. Teaching takes place through songs, games, surveys, story telling, use of educational toys and improvised TLMs, all made by the teachers themselves.

A policy decision had been taken from the inception of the project to follow the Nali-Kali model in handling the multi grade situation. The salient features of this method are reduced learning load, promote MLLs and aim for mastery at the MLLs. Learning in Nali-Kali system takes place in 5 stages.

1. Pre-preparatory activities
2. Preparatory activities
3. Learning activities
4. Evaluation activities
5. Evaluation

Pre-preparatory activities are those where the teacher designs activities keeping in mind the overall view of the competency. The preparatory activities are the starting point and are related to the competency

about to be taught. This is followed by the actual learning activity which is done through cards moving on to activities for practice and reinforcement. This moves further to evaluation.

This model was found to be highly successful in blocks with highly motivated teachers. After the closure of DPEP, the government took a policy decision to continue the Nali-Kali model for all children in I and II standards in all the seven education blocks of Mysore district and the 10 Janashala blocks—Sira, Pavagada and Madhugiri (Tumkur district), Hiriya and Challakere (Chitradurga district), Holenarasipura and Arakalaguda (Hassan district), Honnali (Shimoga district), Koppa (Chikkamagalore district) and Haliyal (Uttara Kannada district). The department has taken an in-principle decision to introduce Nali-Kali in all elementary schools which have strength below 30.

7. Bahumukhi (Multi Grade and Multi Level Teaching Programme)

Since more than 70% of our elementary schools have multi grade teaching, it is imperative that our teachers be trained in MG and ML teaching techniques. DSERT, in collaboration with several organisations – DPEP, APF and BRC/CRC/DIET Bangalore Urban—developed a module called “Bahumukhi” for the purpose. The module contains examples on how to handle classrooms in various MG situations. It enables teachers to implement strategies to incorporate the following important aspects of MG and ML teaching techniques:

- (a) Effective implementation of instructional plan
- (b) Activity based teaching methodology
- (c) Effective use of TLM and community resources
- (d) Effective use of co curricular activities
- (e) Effective classroom management
- (f) Effective time management
- (g) Incorporation of Keli-Kali and
- (h) Continuous comprehensive evaluation to ensure that students in MG schools do not lose out on quality.

During 2004–2005, all the trainers and at least one teacher from every elementary school in the state were trained in this module. In 2005–06 a core group was formed to prepare teachers’ handbooks for different multigrade situations. All the teachers were to be trained in 2006–07 in the use of these handbooks. Details of the programme are given in the annexure.

8. English Language Teacher Training Programme

The status of English language in terms of policy and practice is paradoxical. There is an increased interest to learn this language in order to acquire wider communicative ability among all sections of the society. However, the performance of the learners in English at various levels (primary to college) is not very encouraging. Often, the low percentage of passes in English at the board examination has been the reason for low overall percentage of passes. This paradoxical situation demands a very urgent, appropriate, multi-pronged intervention.

English language has been accorded the status of a second language at the school level. But, under the circumstances explained above, it is essential to shift the focus of teaching from language acquisition to literacy in English language. Bilingual literacy is and has to be the goal of English language teaching.

With a view to train at least one teacher in every primary school in the state in English language teaching, the DSERT took up a massive teacher training programme in collaboration with Regional Institute of English (RIE), Bangalore. The programme was given in a 10-day package. The training module and the language kit was developed by the RIE and given to each teacher undergoing training.

While the master resource persons were trained by the RIE, the primary teachers were trained at the BRCs through the DIETs. The programme covered 48,000 primary teachers in the first year. In 2005–06, a second teacher from every HPS was also trained in this programme.

9. School Development Plan (SDP)

The SDP is an effective tool to improve school education in both physical and academic terms. First, a module for a High School Development Plan was prepared which was later modified to include primary schools too.

The SDP aims

- To empower institutions to develop plans reflecting the schools' vision for the next 5 years, with clear priorities.
- To train heads of schools, teachers and communities to assess their needs and prioritise them.
- To plan for mobilising and utilising the available resources effectively and bring about the desired changes in the institutions.
- To empower the schools to exhibit autonomy and accountability by ensuring community participation.

The SDP is being implemented in three phases from 2003 – 04—the pilot phase, the expansion phase, and the consolidation phase. The process of training is totally participatory and the progress of participating schools in preparing the SDPs and their implementation is reviewed. DSERT has also trained the heads of institutions and SDMC members of high schools, which have been selected for assistance under the high school development plan. The training package under SSA also includes training of Head teachers of primary schools in the SDP.

10. Keli-Kali Radio Lessons

It is an innovative radio programme for primary school children. Its objectives are to provide the benefit of expert teachers to all the students, promote student-teacher interaction and inculcate in children an awareness of joyful learning. Songs, local dialects, folklore and sound effects contribute to the attractiveness of the programme. The programme aims at quality improvement in teaching in primary schools through empowerment of teachers by encouraging them to use popular media in academic work, innovative teaching methods through music, and use of sound effects and dramatisation of lessons to sustain the interest of the child in learning.

In 2000 – 2001, the programme started on a pilot basis for III standard children and was broadcast from Dharwar and Gulbarga stations of All India Radio. In the second phase, the programme was introduced in 11 DPEP districts for III and IV standard children. In the III phase, in 2002 – 03, the programme included III, IV and V standards throughout the state and was broadcast from 10 stations daily from 11.30 a.m. to 12.30 p.m. covering nearly 50,000 primary schools and 70,00,000 children. The lessons are based on concepts, activities and hard spots taken from the textbooks of the respective classes. The aim is to make the child understand these lessons easily.

While developing radio lessons, care is taken to retain the original ideas and the objectives of teaching these lessons. The popularity of these radio lessons can be gauged from the fact that after every radio lesson about 10,000 postcards are received as feedback from the students, parents and the public. Periodic audio-video conferencing has also been held to find out the impact of the programme. The programme has been extended to cover VI and VII standard children in 2005–06 and VIII standard from 2006–07. EDC stepped in and produced interactive radio programmes and extended the programme to children of I and II standards as well from 2005–06.

Objectives of the Keli-Kali Radio Lessons

1. To break the monotony in classroom transaction;
2. To motivate the child towards better learning;
3. To use popular electronic media effectively in classroom transactions;
4. To provide additional resource material for teachers;
5. To improve the quality of the child's learning;

6. To improve enrolment as it also provides some entertainment for the child;
7. To reach the maximum number of children and teachers through lessons prepared by experts in the field;
8. To make learning joyful for the child.

Teachers' Handbook

The teachers' handbooks published by DSERT contain the following details to enable the teachers to use the lessons effectively in their teaching.

1. An annual timetable giving the exact date when a particular lesson will be broadcast;
2. The objectives of each radio lesson;
3. The scope of the lesson;
4. Pre broadcast activities which the teacher can undertake to motivate the children;
5. Learning points in the lesson;
6. Post broadcast activities.

AIR Broadcast Centres

The Keli-Kali lessons are broadcast from AIR stations at Gulbarga, Dharwar, Bhadravati, Mangalore, Hassan, Bangalore, Madikeri, Mysore, Karwar and Hospet. Urdu programmes are broadcast from AIR stations at Hospet, Bangalore, Gulbarga, Dharwar and Mysore.

11. School Adoption Program

Over 90% of the budget for school education in Karnataka is spent on salaries to government primary and secondary school teachers and as grant-in-aid to aided institutions, leaving very little for development of infrastructure in government schools. Even as efforts are being made to bring out-of-school children back to school, the need for additional resources has been growing rapidly. This has created the need for augmenting existing resources by inviting individual and corporate donors who are interested in entering into partnership with the school education department for the cause of education, to 'adopt' government schools to help especially the economically and socially disadvantaged sections of society.

Under this programme, the donors can select any school and prepare a 'programme of action' for a specific period for the all-round development of the school or, select specific areas of intervention aimed at improving the educational system of the school. They can then enter into a memorandum of understanding with the department for implementation of the action plan.

The following is a suggestive list of priority actions put up by the department that can be considered by potential donors under the 'School Adoption Programme.

- Construction of additional infrastructure such as buildings/classrooms/toilets and provision of equipment/furniture/laboratories/library, or renovation of existing infrastructure;
- Development of playgrounds and play facilities;
- Professional training of teachers;
- Remedial programme for educationally backward students;
- Sponsoring of literary, cultural and scientific activities;
- Providing help in any form to needy students, especially from deprived categories;
- Providing nutritious food to needy students;
- Adoption of orphans and girl/SC/ST children.

The response to this initiative has been very encouraging so far and resources valued at about Rs 600 million have been raised from over 8000 donors. The lion's share of the effort has come from Dakshina Kannada, which has raised over half of this amount. It also happens to be educationally the most forward

district in the state. Other districts with notable achievements are Belgaum, Bangalore North, Gadag, Udupi, Shimoga and Bangalore South.

12. *Edu Vision – Shaping Education in Karnataka*

The GOK has identified 'Education' as a sector critical to promoting growth and development of the state's human resources and thereby accelerating economic development cross-sectorally. The government constituted a Special Task Force on Education which recommended several innovative policy initiatives directed towards improving quality of school education.

Since the government also intended to substantially increase investment in education through domestic as well as external financing, its next initiative was a sector report which would provide a comprehensive overview of the sector from preprimary to tertiary education, viewing the educational process as a holistic process, grounded in social relations which shape the way it is accessed differentially on the basis of caste, class, gender and region.

The sector report thus prepared comprises 9 sub-sector studies (as discussed in Chapter II) that provide a focused, in-depth analysis of various sub-sectors, identifying strengths and problem areas, set goals and suggest strategy interventions required to achieve these objectives. The sub-sectors encompass various stages in the educational process, the principal providers of education services in the state, governance and equity issues.

A synthesis report titled '*Edu Vision 2002—Shaping Education in Karnataka*' was prepared based on these sub-sector studies and other inputs. It is the outcome of collective thinking and contributions of a number of people in the education field over a period of 2 years. The first 4 chapters in the report are of particular interest and relevance to Karnataka's initiatives on meeting the goals and objectives of EFA.

The *Edu Vision* document is largely based on the expectation that necessary strategic measures are needed to be initiated both in policy making and operational spheres, in order to create an education system:

- that guarantees equitable access to high quality education, formal and non-formal, which would equip the people of the state with the knowledge and skills necessary for economic growth as well as for living in harmony in a diverse, pluralistic society;
- that is based on a world-class curriculum offering global knowledge and enabling the state to compete in an international knowledge-based economy;
- that is strongly built on people's participation and institutional structures that are accountable to the stakeholders and are constantly adapting themselves to the evolving field reality; and
- that is organised through strategic partnership between public and private initiatives, both for efficient management and for mobilising adequate financial resources.

Karnataka has taken up the stupendous challenge of transforming an established educational system (that is deeply entrenched in an hierarchical structure and largely aligned to existing social divisions) into an equitable, high quality, flexible system. Numerous recent initiatives of the government in the education sector hold out the hope that this challenge will be met.

13. *Edu Action – Translating a Vision into Action*

Following the *Edu Vision* report, the department constituted 5 task groups for school education to develop action plans for implementation of some of the more important recommendations in the report. The 5 groups, drawn mostly from professionals within the department, considered the following areas for identifying new initiatives needed:

- Governance
- Pre-primary and primary education

- Secondary education
- Teacher education
- System level pedagogic reforms

After detailed deliberations the groups decided, as a first step, on the following priority areas and developed detailed action plans for their implementation:

- Development of seven Northeastern backward districts of Karnataka in the area of elementary and secondary education;
- Improvement of high school functioning through the SDP;
- Restructuring of BRCs and CRCs for more effective teacher support;
- Reforms in teacher management—projection of teacher requirements, recruitment, deployment and transfer.

Another action plan—establishing an autonomous organisation for monitoring school quality and student learning—later renamed as KSQAO was also developed. These plans are being implemented in stages.

14. District Level Common Examination

The district level common examination at the end of VII standard was abolished in 2003 as the examination results were found to be unreliable. Though about 90% of students used to pass this examination there was discrepancy in their performance and achievement levels as indicated by the assessment surveys conducted by DPEP.

The sub sector study on management reported that in some sample secondary schools, no student passed the X standard state level examination, although all of them had scored 80% in VII standard examination. The core issue was the low reliability of this examination which reflected on the poor quality in evaluation conducted by class teachers.

The state did not devise an alternative to the VII standard district level examination to assess the quality of schools at the elementary level. However, KSQAO has been involved in quality assessment, but only of primary schools.

15. Raising of Qualification of Primary School Teachers

At the time of the reorganisation of the state, the qualification of primary school teachers was fixed as follows

1. For primary school teachers—Lower Secondary (Middle School – 8 years) and 2 years of Teachers' Certificate Lower (TCL).
2. For middle school teachers—SSLC Examination (High School Matriculation) and one year Teachers' Certificate Higher (TCH).

In 1958–59, the TCL course was abolished and a pass in the SSLC examination was made a minimum qualification for admission to TCH course. The duration of the TCH course was extended to 2 years in 1965–66.

Consequent to the implementation of NPE 1986, the primary school curriculum was further enriched. Therefore, the need for further raising the content and competency of primary teachers was felt. Hence in 1991, the minimum qualification for entry in HCH course was raised to a pass with 50% marks in Pre university (or standard XII) course.

At present, PUC and a pass in DEd examination is the minimum requirement for appointment as primary school teachers. 50% of teachers' posts are reserved for women. Teachers are recruited on merit cum roster basis through competitive examination conducted by CAC. As at 2006 – 07, there are no untrained teachers in the primary teachers' cadre in the state.

Chapter 8

Secondary Education in Karnataka

The tremendous emphasis given to elementary education and the subsequent rapid expansion of elementary education during the last few decades has created a significant demand for secondary education. It must be noted that 10–12 years of schooling constitutes universal education in many countries. Secondary education serves as a bridge between elementary and higher education and is expected to prepare young adolescents in the age group of 14–18 years to the world of work and / or entry into higher education.

The secondary stage acts as a terminal stage for a majority of children. Importance given to secondary education has also significantly increased over the years as most jobs now prescribe a minimum qualification of X standard. Thus, a large number of children need to complete secondary education in order to be prepared for employment and thus improve the quality of their lives.

There is bound to be greater demand for secondary schools as the state moves steadily towards universalisation of secondary education. In 2006, the central government took a policy decision to universalise secondary education and allocate higher budgetary resources to this sector.

The expansion of the secondary school network in the state is more impressive compared to that in primary education. The number of secondary schools has gone up from 1830 in 1968–69 to 10,537 in 2006–07 in 4 decades (Table 8.1). Enrolment in high schools has also kept pace with this growth as the enrolment of 1.6 lakhs in 1960–61 has increased to 24.11 lakhs in 2006–07. (Table 8.2). Similarly, the number of high school teachers has increased from 2515 in 1950–51 to 92,287 in 2006–07.

The challenge before the state lies in expanding and restructuring secondary education in response to the changing aspirations of learners in a knowledge based and evolving economic society. Even where private schooling facilities exist, it will be the duty of the state to provide secondary schools to cater to the educational needs of the urban and rural poor as well as other disadvantaged groups.

A significant feature of the state's secondary education scenario is the presence of a large private sector. Only one third of the secondary schools are government schools, less than one-third are government aided private schools, and the rest are private unaided secondary schools.

Though the private sector has a huge presence in the secondary system, it (specially unaided private schools) is largely an urban and semi-urban phenomenon. Hence, the state will have to complement by providing secondary schooling facilities in areas at least where there is need and genuine demand.

Comparison of Karnataka with Neighbouring States

The tables (SE 1–SE 4) given in the Secondary Education Indicators (which include the +2 stage also) given in the Annexure show the position of Karnataka vis-a-vis its neighbours—Kerala, Tamil Nadu, Andhra Pradesh and Maharashtra. The figures for Karnataka are slightly above the all India average. There are 5 secondary schools for every 100 sq.km. GER in 2003–04 was 41.66 which implies that at least 60 % of children in the age group of 14–18 were outside the secondary school system. The Gender Parity Index was 0.94, above the all India trend (0.80), but below that of Kerala (1.01) and Tamil Nadu (0.98).

Goals of Secondary Education

As in elementary education, the state did not clearly articulate the physical targets to be achieved in the secondary education sector—in terms of access, enrolment and learning achievement. This was because

1. The focus of the state was entirely on elementary education;
2. The state did not consider the secondary education sector as a priority sector;
3. Secondary education was not made compulsory;
4. Two-thirds of the secondary schools were in the private sector;
5. There was no attempt for scientific projection of expected demand of schools, facilities and teachers;
6. There was a paucity of resources as a majority of available resources were being diverted to elementary education.

Hence, the state limited its attention to administration of existing secondary schools, release of grants to private aided schools, and periodical sanction of new government schools based on popular demand (but without a need-based planning).

The Medium Term Fiscal Plan (2003) tried to remedy this lacuna by specifying the following targets:

1. About 65% children in the relevant age group must participate;
2. About 80% of those who join must successfully complete secondary education;
3. Education must enable secondary school leaving students to participate in the rapidly changing world of work or to move to higher education.

However, these were broad and difficult goals to reach due to high dropout rates. Also, the state did not allocate any additional resources for taking up programmes to reach these goals.

Secondary Education after Reorganisation of the State

As per the recommendation of the Education Integration Advisory Committee, the pattern of secondary education for the whole state constituted 4 years from 1960–61. This consisted of 3 years of high school and one year of higher secondary course called XI standard. There were elective subjects from standard IX onwards. There were two public examinations one at the end of X standard and another at the end of XI standard. The first public examination for X standard under the new curriculum was held in March/April 1963.

High schools were converted to higher secondary schools with the intention of providing continuity, especially for students in rural areas. The syllabus of XI standard was the same as that of the one-year Pre university course and the examination was conducted by the respective university. Pupils passing XI standard were eligible for admission to the 3 year degree course.

When the conversion process was going on, the Education Commission (1964–66) brought out its report and the state accepted the pattern suggested by it. To help the department implement the new scheme, Prof. A C Devegowda was appointed as Special Officer for school reorganisation in 1968. On the basis of his recommendations a revised scheme was implemented from 1969–70, according to which, the accepted education pattern was a 7 year primary course, a 3 year high school course without electives, a 2 year pre university course and a 3 year degree course. Thus another year was added to the higher secondary/pre university course. There were now 3 types of institutions under this scheme.

1. Higher Secondary Schools (VIII–X) along with XI and XII standards
2. Independent Junior Colleges running the 2-year Pre university course
3. First Grade Colleges having 2 years of Pre university course.

To manage this complex system, the 2-year Pre university course in all the three types of institutions were placed under the control of the newly created office of the Director of Pre university Education. In 1964–65, the GOI established Central Schools from I to XII standards, meant for the children of central government employees and defence personnel.

Impact of NPE 1986 on Secondary Education in the State

The NPE 1986 and the Programme of Action (POA) 1992 had a significant impact on the secondary education scenario in the state. Some of the important recommendations of NPE with regard to secondary education were

- Widening of access to secondary education in unserved areas
- Consolidation of existing secondary schools
- Conscious inculcation of a healthy work ethic and values of a humane and composite culture to be brought through revision of curricula
- Establishment of Navodaya Vidyalayas
- Vocationalisation of education

These recommendations were sought to be implemented by the state through improving access by opening additional secondary schools every year, recruitment of additional teachers, opening of Morarji Desai Schools and other residential schools for talented rural children and children of SC/ST/ minority communities, and revision of curricula and textbooks. Incentives were also provided in the form of free uniforms and fee concessions for girls.

Expansion of Secondary Education in Karnataka

Expansion of the secondary education network in Karnataka has been very impressive. From a modest 101 high schools in 1947, the number has exceeded 10,000 in 2007. The average annual growth rate is 11%. The student-teacher ratio is now a healthy 30:1 and the ratio of a high school to upper primary schools in Karnataka is an impressive 1:2.7. The following table indicates the rapid expansion of secondary education in Karnataka in selected years in the second half of the twentieth century. (Refer Table 3.8 also).

Table 8.1

Growth of Secondary Schools in Karnataka

Management	1951–52	1956–57	1968–69	1980–81	1986–87	1996–97	1999–00	06–07
Government	NA	NA	611	847	1615	2397	2667	3452
Private	NA	NA	1219	1749	3239	5049	5480	6766
Total	218	530	1830	2596	4854	7446	8147	10218

Source: History of Education in Mysore and Annual Reports

The following table shows the increase in enrolment in secondary schools in the state over the years. There was a sudden increase of enrolment in 1965–66 because of the merger of two classes (old class 8 of primary and new VIII standard of secondary sections).

Table 8.2
Increase in Enrolment in Secondary Schools in Karnataka

Year	<i>In lakhs</i> Enrolment
1946-47	0.27
1950-51	0.54
1955-56	0.84
1956-57	1.25
1960-61	1.69
1965-66	4.49
1970-71	4.82
1980-81	7.89
1990-91	13.30
1999-00	16.89
2006-07	24.11

Source: History of Education in Mysore and Annual Reports

Present Status of Secondary Education in the State

Secondary education in Karnataka currently consists of 3 years of schooling from standards VIII to X. Even though VIII standard is considered a part of the elementary cycle for the purpose of UEE, there are very few primary schools (about 5000) having this class. In contrast, every secondary school has VIII standard. Although secondary education is free, it is not yet made compulsory. The impact of UEE has also contributed to significant increase in enrolment in secondary schools and to a greater demand for new schools.

Access

Currently there are 10,537 (2006-07) secondary schools in the state out of which 3452 are under the government, 2633 under private aided, 4133 under private unaided managements and 319 are run by others including local bodies and other departments. (Refer Table EE 1). On an average, there are 105 high schools per lakh student population. The ratio of high schools to upper primary schools is 1: 2.7 which is favourable compared to the national average.

The existing state norm is to provide one secondary school within a distance of 5 kms of a habitation. The status report on secondary education in 1999 gives the distance-wise availability of secondary schools in the state.

Table 8.3
Distance-wise Coverage of High Schools (1999)

<i>Distance Slab for High School</i>	<i>Number of Habitations</i>	<i>Percentage</i>
Within the habitation	3,499	7.16
Up to 2 km	14,296	29.28
2.1– 4 km	13,733	28.13
4.1–5 km	5,304	10.86
Subtotal (within 5 km)	36,832	75.45
5.1–6 km	3,340	6.84
6.1–8 km	3,706	7.59
More than 8 km	4,935	10.14
Subtotal (5 km and beyond)	11,981	24.57
Total	48,813	100.00

Source: Status of Secondary Education in Karnataka

However, secondary schools are not evenly spread out in all the districts of Karnataka. The distribution pattern of high schools is also not in proportion to the socio economic needs of the student population. About two-thirds of the secondary schools are situated in south Karnataka serving 57.3% of the state's population.

In districts like Bangalore, Tumkur, Shimoga, Chitradurga, Mandya, Hassan, Chikkamagalore, Coorg, Dakshina Kannada, and Uttara Kannada, there are more secondary schools per lakh population. But there are several districts below the state average: Davanagere, Chamarajanagar, Udupi, Belagaum, Bijapur, Bagalkote, Gulbarga, Raichur, Bellary, and Koppal. Bangalore Urban district alone has over 1100 secondary schools. It also has the highest number of private aided and unaided schools. Unaided English medium schools are largely concentrated in urban and semi urban areas because of parents who can afford higher fees. This is more than offset by the strong presence of a large number of government schools in rural areas providing access to the rural population. The sanction of new high schools is not always based on requirements or school mapping. Sometimes it is more out of political considerations as new government high schools have come up in places where there is already an existing aided or unaided school. The following table shows the number of high schools sanctioned during the past several years:

Table 8.4
Sanction of New Government High Schools

<i>Year</i>	<i>High Schools</i>
2002–03	75
2003–04	117
2004–05	—
2005–06	126
2006–07	485

Source: Annual Report 2006 – 07

Enrolment

Enrolment in secondary schools has steadily increased from 5.57 lakhs in 1987–88 to 24.11 lakhs in 2006–07. Out of the total enrolment in secondary schools, 10.25 lakhs are studying in government schools, 7.53 lakhs in aided schools and 5.71 lakhs in unaided schools. (Refer Table SE 9). The difference in enrolment of boys and girls is still a sizeable 7%. The Edu Vision document (2002) has given an estimate of children attaining different classes.

• Enter Class I	100
• Reach Class IV	89
• Reach Class V	85
• Reach Class VII	65
• Reach Class VIII	43
• Reach Class X	33
• Pass Class X	25
• Enter Class XI	16
• Pass Class XII	12
• Enter higher education	10

This means that only 43% of the children in the corresponding age group participate in secondary education. The reason for this is low transition from the elementary cycle to the secondary cycle. The situation has not changed much during the past few years.

Secondary School Teachers

The total number of secondary school teachers in 2006–07 was 92,287. Out of this, there were 30,859 (33.43%) teachers in government schools, 25,148 (27.24%) in aided schools and 36,280 (39.31%) in unaided schools. (Table SE 14). The percentage of female teachers was about 33. (See Table SE 17).

The following table shows the increase in number of secondary school teachers over the years. (See also Table SE 14).

Table 8.5
Growth in Secondary School Teachers

Year	1951–52	1958–59	1968–69	1977–78	1986–87	1999–00	2006–07
Teachers	2590	8718	20,598	24,184	30,394	75,961	92,287

Source: History of Education in Mysore and Annual Reports

Even as late as 2006–07, new schools have been sanctioned without infrastructure and staff. The schools are started through deputation of secondary teachers from neighbouring schools, and posts are sanctioned in phases spread over 3 years as the students progress from VIII standard to X standard.

Qualification of Secondary School Teachers

Before 1956, the percentage of trained graduate teachers in high schools in princely Mysore state was only 42.3%. The department started deputing working teachers both from government and non government schools to the B Ed course on a regular basis. Colleges of Education were also permitted to run 2 year evening B Ed Courses for the benefit of a large number of untrained teachers. Later, the Regional

College of Education (RCE) started a Summer cum Correspondence Course (of 14 months duration covering 2 summer courses of 2 months each and 10 months correspondence course) for the B Ed degree.

The government also took a decision not to recruit untrained graduates. The minimum qualification prescribed for recruitment of secondary teachers now is a BA/B Sc degree with professional qualification of B Ed. 30% of secondary teachers' posts are reserved for women. Secondary teachers are recruited through a competitive examination and by merit cum roster system through the CAC. Commerce graduates are not permitted to become teachers as per the present rules. A graduate should have studied a minimum of 2 subjects taught in high schools at the degree level to be eligible to become a teacher.

Teacher Recruitment

The recruitment of government secondary school teachers over the years shows an uneven trend and is neither systematic nor based on scientific projections. Hence, a large number of vacancies exist in government secondary schools at any given point of time. Alternative arrangements cannot be made as the posts are subject teachers' posts limited to one per school in smaller schools.

Table 8.6

Teacher Recruitment

Year	No. of teachers recruited
1992-93	688
1993-94	—*
1994-95	4462
1995-96	—
1996-97	2946
1997-98	3690
1998-99	—*
1999-00	961**
2000-01	—*
2001-02	870
2003-04	3858
2004-05	1973
2005-06	2104
2006-07	5984

Source: CPI

* No recruitment took place,

** 961 music, dance and drawing teachers were recruited in 1999-2000

Recruitment has been streamlined since 2003-04, as teacher recruitment was removed from the ambit of economy measures. Still the gap between occurrence of a vacancy and filling up of the post is more than six months. In respect of aided schools, the ban on recruitment is lifted periodically but school managements make alternative arrangements by appointing teachers on a temporary basis with low pay.

Residential Secondary Schools

Morarji Desai Residential Schools were set up in 1995–96 (on the lines of Navodaya Schools) to educate talented and bright backward classes children in 20 districts of the state. The admission to these schools is by an entrance test. 50% of seats are reserved for girls and 80% for rural students. The schools have classes from VI to X standards and the intake in each class is 50. These schools have been consistently giving good results in the SSLC public examination. In 2006, the schools produced 89.07% passes compared to the state average of 62.46%.

There are also other types of residential secondary schools serving various depressed sections of the society as shown in Table 8.7. Five minority residential schools have been opened on similar lines to give fillip to education of minority communities at Ramanagaram, Srirangapatna, Mangalore, Bijapur, Gulbarga. Four government residential high schools for talented SC/ST girls are functioning in Nanjangud (Mysore district), Mayakonda (Davanagere district), Bagalkote and Gulbarga.

The maintenance and administration of these residential schools which was transferred from the education department to the Karnataka State Residential Schools Society in 2005 was transferred back to the department in 2007.

Table 8.7
Residential Schools belonging to Education Department

<i>Residential Schools</i>	<i>Number</i>
Morarji Desai Schools	20
Other Residential Schools	03
Muslim Residential Schools	05
SC/ST Girls Residential Schools	04
Aided Residential Schools	04
Total	36

Source: CPI

Infrastructure in Secondary Schools

Except in the case of well established government and private schools, the infrastructure in high schools in the state does not present a rosy picture. This is due to many reasons. The tendency of the government is to sanction a high school first and then provide infrastructure in a phased manner spread over a period of several years. Until fully developed, the school functions in cramped accommodation or in the shift system in the local higher primary school building or some temporary or rented accommodation causing inconvenience to both students and staff. The same is also the case with private schools which take many years to develop and have their own buildings.

When these schools are further upgraded as junior colleges, the same story is repeated as the high schools and junior colleges operate in the shift system. There were 379 government high schools/junior colleges running in the shift system as per data available in 2006. Additionally, it was found that 60% of the schools do not possess minimum infrastructure and playground facilities.

The HDR 1999 noted, "Notwithstanding the spectacular expansion of high schools in physical numbers, infrastructural facilities in most schools are much below minimum requirements—Only 49% of the high schools have toilets, only 37% have laboratories and only 15% have libraries". The situation was not much different in 2006.

The annual budgets of the education department were providing very little support in terms of creating infrastructure facilities in secondary schools as more than 90% of the budget was being earmarked for salaries.

To commemorate Netaji Subhash Chandra Bose's birth-centenary celebrations, the government sanctioned 224 high school buildings, one for each assembly constituency, in 1997 – 98. The unit cost for each building was Rs 9 lakhs which was released over a period of 3 years.

During 2006–07, Rs 200 lakhs were released for construction of classrooms for high schools without buildings in partnership with NABARD under the RIDF 10 scheme. Under this scheme, Rs 3813.59 lakhs have been spent so far towards construction of 2977 additional classrooms in 1411 government high schools. Under the RIDF 12 scheme, Rs 9028 lakhs have been sanctioned for construction of 2257 classrooms in 786 high schools.

Under the High School Development Plan, one high school was selected per education block through a block level committee. The objective was to provide basic infrastructure and support the academic needs of the school through the Institutional Development Plan. In 2005–06, 210 high schools were provided assistance at the rate of Rs 2.5 lakhs per school. In 2006–07, two high schools were selected from each of the 202 education blocks and each school was provided Rs 2.50 lakhs for improvement of infrastructure facilities. These token efforts are inadequate to satisfy the infrastructure needs of all the government secondary schools in the state.

Contingency Grants to Government High Schools

Every government school does not get the contingency grant every year. During 2006–07, only 485 government high schools (out of 3452 government schools) received a contingency grant of Rs 25,000/- each.

Fees Structure in Secondary Education

At the time of reorganisation of the state, secondary education was not free in any of the integrated regions. The fee charged ranged from Rs 1.50 to Rs 6 per month. Pupils belonging to SC/ST were generally exempted from payment of fee. There was also provision for grant of fees concession to deserving children in all areas. In Ex-Mysore area, girls and Muslim students paid half the prescribed fees.

The Education Integration Advisory Committee recommended a uniform fees structure in secondary schools as follows: VIII standard Rs 4/-, IX standard Rs 5/-, X standard Rs 5.50. and XI standard Rs 6/- for 10 months of the year. In addition, special fees such as Sports, Reading Room, AV Education, Medical Inspection and Laboratory fees were also required to be paid by the students.

In 1960–61, the state took a decision to make secondary education free for all those children whose parents' income was below Rs 1200/- per annum. The income limit was increased the following year and in 1966–67, secondary education was made totally free for all students up to X Standard. Failed students who continued in the same class had to pay the prescribed fee.

However, a sum of Rs 10/- was collected by every student annually (except SC/ST students) as school betterment fees. Besides, the students also had to pay the prescribed fee towards TBF and SWF.

Pay Scales of Secondary Teachers

With effect from 1 January 1957, the pay scales of secondary teachers were revised and made uniform throughout the state. The pay scale was Rs 75–Rs 200 for a graduate teacher. With effect from 1 April 1963, the teachers serving in aided schools received the benefit of the triple benefit scheme—provident fund, life insurance and pension.

In 1970, a graduate teacher was started on a basic pay of Rs 130/- whereas a trained graduate teacher was given a basic pay of Rs 175/-. This was quite a progressive step which significantly improved the financial status of secondary school teachers in the state. The current pay scales of different categories of school teachers is given in Table G T 13.

Incentive Schemes

All girls studying in standards VIII to X in government secondary schools are given free textbooks and free uniforms under the Vidya Vikas Scheme. These girls are also exempted from paying all fees. The non government fees payable by them is reimbursed to the respective schools by the government.

Besides, the Akshara Dasoha (Hot Cooked Midday Meal) scheme has been extended to students of all government and aided secondary schools in the state from 2007–08.

School Complexes

The Education Commission 1964 first conceived the idea of a school complex. The Commission, while discussing the role of universities and colleges, recommended that for maintaining standards in education, they should assist secondary schools through extension work and guidance and make secondary schools the testing ground for trying out innovative ideas to improve teaching methods and carry out other experiments in the field of pedagogy. However, this concept did not take off at this level.

The NPE 1986 and POA 1992 emphasised the promotion of school complexes for effective implementation of planning and management at the local level.

In Karnataka, the concept of school complex was tried out at a lower level. Feeder higher primary schools were attached to a designated high school. This enabled the primary schools to share the resources of the high school for academic work. This concept worked as long as some budget was allotted to the school complex. Only in some blocks where the individual BEOs took special interest, the school complex worked well.

Physical Education

Every year sports meets are conducted at block, district, division and state levels for students of higher primary and high schools of the state. The Vidyarthi Kreedha Nidhi is collected from students for this purpose. Financial assistance is also given by the government, TBF and SWF, besides collections from philanthropists. Selected candidates are sent to national level competitions and the state hosts 2–3 national school games every year.

At the school level, there is a sanctioned post of a Physical Education Teacher in every secondary school. This teacher looks after the physical education activities and conduct of sports and games in the school. In the weekly timetable, 4 periods of 45 minutes each (140 periods annually) are allotted for physical education, yoga and health education. (Refer Table SE 13).

Minority Education

The state has 540 high schools (including 198 government high schools) catering to the needs of children of linguistic minorities—325 Urdu high schools, 16 Tamil high schools, 15 Telugu high schools and 184 Marathi high schools. There are certain privileges enjoyed by the private minority institutions. More than one lakh children study in these schools. The details regarding number of schools, teachers and enrolment are available in Tables SE 10, SE 11 and SE 12.

There is a separate Directorate for Urdu and other minority languages to look after the welfare of these schools. The Directorate also coordinates the work of other agencies working in the field of education for minorities.

The most important issue the state is facing in education of minorities is a serious shortage of Urdu medium teachers in Science and Mathematics. At the graduate level, the teachers study these subjects in English/Kannada medium. The state amended the recruitment rules to provide for teachers who have studied Urdu as a first/second language to be eligible for recruitment as Science and Mathematics teachers in Urdu high schools. Yet, the shortage persists.

Quality Concerns in Secondary Education

Quality Issues

Apart from access, the most important issue in the secondary education sector is maintaining quality. After completion of secondary school education, the students either enter the higher education sector or enter the labour market in large numbers. Hence the quality of secondary education has a significant impact on the state's economic scene.

In elementary education, there are well-defined goals and physical targets to be achieved within a clear time frame. But no such thing was perceived for the secondary education sector. Even though, as already stated, the MTFP tried to remedy the deficiency by setting some goals, no concrete programmes were implemented in the secondary education sector to achieve them.

Analysis of X Standard Examination Results

The pass percentage in the X standard public examination was only around 50 % every year and that meant there was 50% wastage of both human and state's resources. (Refer Tables SE 15 and SE 16). In 2005, it was 62.47%. (Refer Table 2.5). After a number of trials (discussed in Chapter XIV separately), the pattern of question paper was changed in 2006. As a result, the performance improved considerably. In March 2006, 70.91% of those children who appeared passed the examination. The performance of girls (71.30%) was slightly better than that of boys (66.18%). Subject-wise pass percentage was: I language 91.47%, II language 92.37%, III language 97.73%, Mathematics 77.53%, Science 83.70%, and Social Studies 93.18%. Further improvement is required as the wastage and stagnation at this level is still significant and to the extent of 30%.

The following reforms have been brought about in X standard public examination:

- Results are being announced on the Internet since April 1999.
- Ranks have been abolished. All students attaining 85% and above are declared as having obtained distinctions.
- Photocopies of answer papers are made available to students and revaluation arranged in cases of significant difference in valuation.
- All SSLC marks cards are being laminated and printed with special holograms to avoid tampering.
- The functions of the Board have been decentralised and the Divisional Joint Directors who are designated as ex-officio secretaries of the Board are delegated with certain functions of the Board like issue of duplicate marks cards, etc.

Quality – Government Vs Private Schools

The following table gives a comparison of performance of government and private schools relating to X standard public examinations over the years. The table shows a sizeable gap in the performance of students belonging to government schools and private schools over the years.

Table 8.8
Comparison of Performance of Government/Private Schools
in X Standard Public Examination

Year	Govt. Schools	Pvt. Schools
1999	47%	62%
2000	41%	57%
2001	43%	56%
2002	40%	56%
2005	58%	66%
2006	65%	75%

Source: Annual Reports

While the performance of students in government schools has improved from 47% in 1999 to 65% in 2006 showing an improvement of 18 percentage points, it has increased significantly in private schools too from 62% in 1999 to 75% in 2006, showing an improvement of 13 percentage points. Still the gap in performance between private schools and government schools remains a sizeable 10%.

Some of the reasons for lower performance of students in government schools appear to be

- Inadequate infrastructure in government schools—buildings, crowded classrooms, lack of drinking water and toilet facilities;
- Unfilled vacancies of subject teachers (for a long time) especially in English, Science and Mathematics;
- Lack of supplementary teaching materials and teaching aids in schools;
- Inadequate laboratory and library facilities;
- Low motivation levels of teachers in government schools;
- Lower quality of students entering VIII standard in government schools when compared to the quality of students being admitted in private schools.

To prevent failed students wasting one academic year, the supplementary examination was advanced and is now conducted every year in the month of June.

Teaching of English, Science and Mathematics

Much of teaching in Science is textbook based. Experiments are shown only on the blackboard. It is also perceived that the level of subject mastery of teachers is low.

Special projects to improve teaching of English, Science and Mathematics in the underperforming schools need to be taken up. There is need for enhancing budget allocation for science activities and also teacher training in all the 3 subject areas.

The DSERT needs to draw up minimum standards of laboratory and library facilities which must be rigorously enforced. A mechanism to monitor their effective use in all the schools also needs to be put in place.

Budget Allocation to Secondary Education

The goal of providing universal school education of 10 years to all children can be achieved only if the state starts spending a higher proportion of the allocation on secondary education. At present it is spending about 30 % of its total education outlay on secondary education, including pre university education. (See Table SE 6).

Currently, the salary component as a percentage of total outlay on secondary education is around 90% every year. This implies that very little of the budgeted outlay on education is left for other development purposes. Increasing the outlay in a phased manner will help improve the quality of students coming out of secondary schools which in turn will have a direct impact on the socio-economic progress of the state.

Investment in secondary education should be strategically targeted at critical areas like enhancement of enrolment levels in secondary sector and creation of additional infrastructure as per requirements. The state also needs to step up financing secondary education in a phased manner for programs like quality improvement, professional training of teachers, restructuring of curriculum and reformation of the examination system.

Challenges in the Secondary Education Sector

In the secondary education sector, there are large areas of concern-

1. More than 50% of eligible children in the age group of 14-16 years are still out of the secondary system (See Tables 2.3, 2.9 and SE 5).
2. Out of every 100 children who enter standard I (as a percentage), 43 reach standard VIII, 33 reach standard X, and only 25 pass standard X. This amounts to a tremendous wastage of human and educational resources.
3. Disillusionment with government schools has led to decline in relative share of enrolment in government secondary schools predominantly in urban areas.
4. The pass percentage in the X standard public examination needs further improvement. The performance of students is poor in English, Mathematics and Science.
5. There is a common perception that the level of subject mastery is low among teachers teaching English, Science and Mathematics.
6. Poor performance in Science is not surprising as science teaching is largely textbook and blackboard based, as a majority of the schools lack laboratory facilities.
7. Several districts (roughly half the number) consistently perform below the state average in the public examination.
8. Salary component of the budget forms nearly 90 % of the total outlay leaving only very little for development expenditure.
9. Enrolment of girls is much lower than that of boys.
10. Filling up vacancies of secondary teachers in government high schools has been erratic and should be based on manpower planning and scientific forecasts of requirements. A number of secondary schools remain without subject teachers for an entire academic year when vacancies occur due to retirement, death, and transfers. This is also one of the main reasons for low performance of government schools in the X standard public examination.
11. Every year careful projections of demand must be made in every district of the state based on the strength of children studying in VII standard, and schools must be made available within 5 km radius of these children.
12. Facilities for regular professional development and in-service training of our secondary teachers are still inadequate. Though training of secondary teachers is being conducted through 6 CTEs, the coverage is limited as only a maximum of 4000 teachers can be trained every year.
13. The department has a programme of adoption of each school (which has secured less than 20% results in the public examination) by an officer of the department who is supposed to monitor the academic progress of the school throughout the year. This programme needs to be implemented more effectively.
14. Notwithstanding the spectacular expansion of high schools in physical numbers, infrastructural facilities in most schools are still much below minimum requirements.

15. Availability of high schools and teachers needs to be improved in Gulbarga division. There is also a case for removing rural-urban and gender gaps.

The state faces a dual challenge—increasing participation which will result in increase in demand for secondary schools (and subsequent increase in demand for infrastructure) and improving quality in secondary education. Hence, the challenge lies in improving infrastructure facilities and the quality of classroom transaction in secondary schools, as the quality of higher education depends on good quality at this level.

CABE Committee Recommendations

The Central Advisory Board of Education (CABE) committee, in its report in June 2005, made the following recommendations.

- The guiding principles of universal secondary education must be universal access, equality and social justice, relevance and development and structural and curricular considerations.
- Norms for schooling must be developed for each state with common national parameters as well as state specific parameters.
- Each state must develop a perspective plan for implementing universal secondary education with focus on decentralised micro planning.
- Financial requirements for covering the cost of universal elementary and secondary education will form approximately 5.1% of the GDP. Hence, the immediate allocation of 6% of the GDP for education, and progressive increase in this proportion will be necessary to move towards universalisation of secondary education.
- The pressure on secondary education is already being perceived. It will neither be possible nor wise to wait till 2010 when the pressure may become unbearable.

In this context, the MHRD has advised the states to take up the following preparatory steps for universalisation of access and improvement of quality of secondary education in the country:

- Identifying under-served areas to establish new schools;
- Developing state specific norms for physical facilities;
- Identifying deficiencies in existing schools;
- Streamlining of non governmental schools;
- Identifying causes for low participation of girls, SCs/ STs and other disadvantaged classes and taking remedial measures;
- Revision of curriculum in line with NCF 2005;
- Making evaluation system more meaningful;
- Decentralisation of school education with adequate delegation of powers to local bodies, management committees, etc.;
- Establishment of quality open and distance learning facilities;
- Formulating policies to encourage private sector to establish and run quality secondary schools;
- Allocating adequate resources in the state XI plan for secondary education;
- Rationalising policies in respect of teachers' recruitment and deployment;
- Improvement of pre-service and in-service training of teachers with emphasis on use of ICT.

Karnataka needs to take steps indicated above on a priority basis in order to make universalisation of secondary education a reality.

Computer Education Programmes

The advent of computer and internet based education methods offer a new exciting learning medium that can literally transform the concept of school and classroom from physical to virtual realities. Experience shows that computer based educational methods can lead to a much faster rate and higher quality of learning, which is much more interactive and motivating for students at all levels. It is extremely effective for enhancing reading and language skills, general knowledge, and learning difficult subjects like Science and Mathematics.

Computer education and computer-based education was taken up in 1000 government secondary schools from March 2001 as a 5 year scheme under the **Mahiti Sindhu Programme** which was an ambitious and successful programme of the education department. Further, computers were given to 150 government secondary schools under the **Revised Class Project** and to 88 more schools under the **XI Finance Commission Project** from 2003–04.

Under the **ICT @ schools scheme** the GOI sanctioned computer education to another 480 secondary schools during 2005–06. Thus, a total of 1718 government secondary schools (out of 3452 government secondary schools) were covered under the computer education programme.

In these schools, in addition to computer education, students learn difficult concepts in English, Social Science, Science and Mathematics through CD ROMS. They are given hands-on experience in simple programming, e-mail and internet. All the secondary teachers have been trained by Intel to use computers for teaching their subjects. Microsoft is also providing a 10 day training programme to secondary teachers, through its Computer Academies situated at Bangalore, Gulbarga and Dharwar.

It is interesting to note that several students across the state who have passed out of these schools have been able to use their knowledge of computers for gainful employment by setting up cyber cafes in their towns and villages.

Evaluation Study of the Computer Education Programme

The evaluation study conducted by CDMR, Dharwar has highlighted the impact of the Mahiti Sindhu Programme as follows:

- Significant improvement in enrolment and attendance in these schools
- Reduction in dropouts;
- Increase of computer literacy among students;
- Majority of teachers are trained in computers and are able to use them in classroom teaching.

Intel-IMRB Survey Report

The Intel-IMRB survey 2006 has highlighted the following points:

“Even though Karnataka has displayed a high infrastructure growth post the implementation of the program, infrastructure and support issues are the major challenges faced by the state. Inadequate access to internet and lessons not fitting well into the curriculum are the main reasons for not implementing technology based lessons among teachers. Computer knowledge is a motivating factor. There is high satisfaction among teachers about the programme across districts.”

Since Information Technology happens to be the *sine qua non* of the present-day society, the state needs to take immediate steps to extend computer education to all the government secondary schools in the state.

Recommendations of the Perspective Plan Committee with regard to Computer Education in the State

The Perspective Plan Committee has made the following recommendations with regard to computer education in its report:

- The state must develop a comprehensive ICT policy to boost its primary and secondary education system through technology adoption and appropriate ICT driven education reforms.
- Modernising curriculum with real life contextualisation and ICT driven content will bring in world class professional development practices for school administrators and, most importantly, teachers.
- Revamping the whole ICT infrastructure will increase and enhance student-teacher access to ICT, and at the same time, make the next generation ICT infrastructure cost-effective.
- Every secondary school should compulsorily have a computer centre (10 computers for every 250 children) to impart both computer education and computer-aided education to every student.
- Since funding is a key constraint in up-scaling ICT infrastructure, all funding options should be explored: FDI/international donors/long term loans from World Bank/ADB/ corporate funding/school adoption for computerisation/lease cum purchase from financial institutions / public-private partnerships, etc.
- Training programmes should support teachers to effectively integrate computers and internet technologies into their classroom transactions by aligning curriculum, exams, and incentives with the educational outcomes.
- Computer education must be made a compulsory subject in the X standard public examination.
- Development of synergy between Edusat and ICT and conversion of content to digital form, at least in Science and Mathematics, will help improve quality of classroom transaction in these subjects.

Recommendations of the Perspective Plan Committee in Secondary Education Sector

With the immediate prospect of universalisation of secondary education, the recommendations of the Perspective Plan Committee on Secondary Education gain more relevance. These recommendations provide long and short term objectives to be achieved within a time frame. Given below are some of the most important recommendations of the Committee:

1. Ensure that all children who complete elementary education also complete secondary education. That is, ensure a minimum of 10 years of schooling to all children by 2012.
2. Ensure that there are no dropouts at the secondary stage and that those children who complete 10 years of general education acquire the specified knowledge and skills required for further education or employment. This means that secondary education should enable the children to participate in the rapidly changing world of work or to move to higher education.
3. Improve coverage through increased access to secondary school (i.e., within a radius of 5 km of a habitation).
4. In habitations with population below 500 in which independent high schools are not viable, the option of distance education programme needs to be explored so as to cater to girls and (special) children who cannot travel long distances.
5. In some of the northern districts of the state, access is still an issue as far as secondary schools are concerned. Experience of Kerala shows that about 85% of children would, in the normal course, continue their education up to standard X, if access was not a serious problem.

Extension of Edusat Project to Secondary Schools

In the Edusat project, TV based video lessons are being broadcast every day for the past 2 years to primary schools in Chamarajanagar and Gulbarga districts. This programme helps teachers to use this resource support for explaining difficult concepts.

Thus it is evident that experimentation is needed with new methods of knowledge delivery. The reach of the Edusat project needs to be widened as it is an effective means of educating both school going and non school going population. By delivering a combination of best teachers and multimedia, the process of delivery can be dynamic, entertaining, interesting and meaningful. It can also help an average teacher to supplement classroom teaching.

As a logical conclusion, the Edusat project needs to be extended to secondary schools. Since more than two-thirds of the secondary schools are in the private sector, private management may be asked to arrange for the receiving stations on their own. The government also needs to plan out and provide receiving sets to about 500 government secondary schools every year, the cost of which would be Rs 250 lakhs per year.

A Model Secondary School in Each Block

The state must develop one secondary school in each block, provide qualified staff and all other facilities such that it becomes a model school worthy of emulation by other schools. Instead of opening separate residential schools for hard-to-reach children and girls (as was done in SSA at elementary stage), children may be provided with hostel facilities as an incentive to join such model schools.

The School Complex and the Composite High School Concepts

These two concepts have been tried and tested over a period of time. The composite high school help to integrate a high school with the feeder higher primary schools situated in the same locality. The administration of such primary schools gets transferred to the Head teacher of the high school. Similarly, high school teachers who have less workload get to handle upper primary classes, which benefits the children.

Developing State-specific Norms for Physical Facilities

In order to develop specific norms for physical facilities in secondary schools, the committee members visited some good schools in urban and rural areas. Besides, some Head teachers of reputed government schools also made presentations regarding the norms to be developed. The committee also took note of the pathetic situation where several government high schools are running in the premises of primary schools for several years, hampering the work of primary schools too.

It may be noted that even after starting of new government secondary schools, the government does not follow any plan in sanctioning physical facilities or staff. This directly affects the quality of instruction. Thus, efforts must be made to provide the physical facilities within one year of sanctioning any government secondary school. In the case of the health department, hospitals are opened only after all physical facilities are in place whereas in case of schools, it is exactly the reverse. This situation has to be rectified.

Norms for Secondary Schools

The committee has developed the following norms for providing infrastructure in secondary schools:

1. Land—2-4 acres, Playground for a minimum of 4 games with a 200-metre track;
2. Rooms – one classroom for every 40 children with separate rooms for an integrated laboratory, library, sports, music and art;
3. One Head teachers' room, one staff room and one girls' rest room;
4. A common meeting hall for academic and socio-cultural activities;
5. An outdoor stage with adequate space for conducting school assembly /mass PT/cultural shows/school day, etc.;
6. A school will be sanctioned an additional section when the strength in a class exceeds 70;
7. Disabled-friendly facilities like ramp, special toilets, classroom furniture, etc.;

8. OHPs /LCD projector/TV/DVD player;
9. Library with 1000 books for every 100 children;
10. One receiver terminal for Edusat;
11. One computer lab (10 computers for every 250 children);
12. Safe drinking water facilities;
13. Separate toilets for girls, boys and staff;
14. Power, telephone and internet facility;
15. Indoor games facility;
16. School garden/social forestry/bio intensive garden;

Focus on School Performance

There is greater need to shift the focus from the system to the initiatives to be taken by the school to enhance its performance. The department needs to establish a system of accountability which is linked to school performance. This can be done by monitoring the extent to which the school meets the minimum expected standards as well as implements its own improvement plan.

School Development Plan (SDP)

Every school needs to have its own identity and a vision. Hence, each school needs to develop a comprehensive SDP spanning at least five years, with goals and objectives to be achieved within a certain time frame. The SDP should be developed in consultation with all the stakeholders. This will help the school in pooling a major portion of the resources from the local community. The academic goals fixed will bring a sense of accountability among teachers.

Contingency to Secondary Schools

It has been observed that the contingency in respect of high schools is not being released every year. In fact, some of the secondary school Head teachers stated (to the committee) that their schools had not received it for the past 4 years. It is required for daily maintenance and administration of schools for providing chalk piece boxes, stationery, cleaning, payment of electricity, telephone and water bills, etc. It is estimated that a school having 3 sections requires a minimum of Rs 10,000/ every year (2006 estimates). Besides the contingency, schools also require money for purchase of newspapers and books for the library, and consumables for the laboratory.

Accountability and Teacher Appraisal

A system of accountability has to be brought among the teaching community. Every teacher may be appraised and graded once in 3 years. Incentives may be given to outstanding teachers. Similarly, there should be a provision in the service conditions to compulsorily retire incompetent teachers.

The department should develop self evaluation tools for teachers, Head teachers and supervisory staff. This can also form part of the Annual Confidential Report. Every institution at every level should bring out an Annual Performance Report, much on the lines of the Performance Budget brought out by the department. This report should include the goals, targets set for the unit, activities conducted, achievements, areas of constraints, and alternative solutions to overcome them.

Quality improvement programmes should focus on identifying and taking remedial action in respect of underperforming specific regions, specific groups and specific schools.

Vocational Education in Secondary System

Due to a high level of wastage at the secondary stage (specially affecting a large majority of rural students), it is absolutely necessary to reconsider the existing policy of having only general education at the secondary level. The question that arises is "Why should every student follow an identical course of study?".

Efforts to provide vocational education should be seen from a wider perspective as a large number of youth and adolescents have remained outside the purview of formal secondary schools. Options of a wide range of subjects must be offered to students right from standard IX as in the developed world. It would help a large number of students to access a range of jobs after 10 years of schooling.

Emphasis should be laid on courses which would build capacities and help acquire new skills as required in the rapidly changing world of work. These courses should be relevant both to rural and urban areas and be directly related to the interests of the learners and to the market demand.

One of the reasons for the heavy dropout by the time the children reach secondary stage is the perceived difficulty in understanding subjects like English, Science and Mathematics. Thus, the potential human resource is lost to the unskilled, low productive, least remunerative unorganised sector. Also, the possibility of dropouts turning to antisocial activities and becoming a menace to the established social order looms large.

The HDR 2005 recommended addressing this area from a fresh perspective through developing vocational courses for dropouts from the school system.

The NPE 1986 emphasised the introduction of vocational education courses from the lower secondary stage, but no such attempts were made in the state. The Ramamurthy Committee also recommended that there should be vocational education beyond standard VIII. The Committee stated that the 4-year secondary stage from standard IX to XII should be viewed as a whole so that the courses could be planned for varying duration from 1 to 4 years in the academic and vocational streams.

A draft outline of the scheme for pre vocational education at the lower secondary stage was also circulated at the CABE meeting held in March 1991. The CABE agreed, in principle, to introduce pre vocational education in a phased manner at the lower secondary stage. This experiment would have helped to arrest the dropout rate at the secondary stage and would have strengthened the skilled labour force in the state, both in the agricultural and technological sectors.

Hence, the Perspective Plan Committee felt that the state should address the issue of introducing vocational education at the secondary level to cater to the needs of a large number of students who drop out before passing X standard and even beyond.

The objectives of pre vocational education at the lower secondary stage are:

1. To impart training in simple marketable skills to students in standards IX and X;
2. To develop vocational interest and aptitude in enhancing productivity;
3. To facilitate students make a choice of vocational courses at the higher secondary level;
4. To prepare students for participation in work as a desired dimension of academic education as well as to inculcate healthy values related to work culture.

The pre vocational courses could be in modular form with a choice of 3 to 4 courses offered as alternatives in IX and X Standards for students who may not like to study English, Science and Mathematics. The vocational subjects should incorporate basic life skills and other practical skills in addition to entrepreneurship and basic computer knowledge, comparable to the minimum competencies in the scholastic subjects.

This experiment can be taken up in all the 540 composite P U colleges where the vocational education course is offered at the plus 2 stage. The infrastructure and the faculty available at the plus 2 stage could be usefully employed for pre vocational courses in IX and X standards. The students thus opting for vocational courses have to be treated at par with other students. The examination at the X standard level for these students may be conducted in cooperation and collaboration with Director, Secondary Education Examination Board and Director, Vocational Education. A committee may be constituted to frame the curriculum and prepare the modalities for introduction of vocational courses at the secondary stage.

Establishment of Quality Open and Distance Learning Facilities

Since it is not possible to universalise secondary education on the same pattern as elementary education, and since all the youth (in the age group of 14–18 years) will not be able to enter the formal school system due to a variety of reasons, it is absolutely necessary to establish quality open and distance learning facilities in collaboration with the National Open School, NGOs, and local educated youth.

Open schooling should receive full state support to ensure high quality education. Traditionally also, open schooling is a cheaper alternative to formal schooling. The open school network has to be created and expanded to ensure its availability to all those who need it.

A separate directorate has to be established to operationalise and maintain the State Open School system as, at present, it is under private control in the state. This directorate has to enhance quality of open schooling through a variety of measures—opening distance learning centres in remote and inaccessible locations, distribution of quality print and text material, opening of counselling and tutorial services, etc.

In remote areas, the nearest higher primary schools can act as distance learning centres. In habitations with population below 500 in which independent high schools are not viable, exclusive distance education centres need to be explored so as to cater to girls and (special) children who are not allowed by parents to travel to nearby secondary schools.

Chapter 9

Pre-Service Teacher Education

Teacher performance is the most critical input in the field of education. Whatever policies are laid out by the state, ultimately, it is the classroom teacher who has to bring them to fruition. Hence teacher selection, training, capacity building, motivation and output of work assume importance.

The Kothari Commission (1964–66) recommended improvements to be brought about in the professional, academic and social aspects of teachers. It famously stated “The destiny of the nation is being shaped in our classrooms”. Hence, the classroom teacher plays the most crucial role in transforming the children into responsible citizens. Both the NPE 1986 and the POA 1992 emphasised the importance of teacher education.

In Karnataka, pre-service teacher education has three main components—Nursery Teacher Training, Elementary Teacher Training and Secondary Teacher Training. In addition, we also have Physical Education Teacher Training (C P Ed and B P Ed), Hindi Shikshak Training, and Postgraduate Teacher Education courses (M Ed/M Phil/Ph D).

Certain aspects of teacher education in the state were being looked after by the State Institute of Education till 1975, when the responsibility was shifted to DSERT.

Types of Teacher Training Courses in Karnataka

The development of teacher training in the state has been very steady for the past one hundred years. Several types of courses have come up in the state for the purpose.

1. Nursery Teacher Certificate (NTC)—for pre primary teachers;
2. Teacher Certificate Lower (TCL)—for lower primary teachers (abolished later);
3. Teacher Certificate Higher (TCH)—for higher primary teachers (now known as the D Ed course);
4. B.Ed degree for high school teachers (the degree being awarded by universities);
5. B.Ed (Hindi) awarded by KSEEB for Hindi teachers;
6. Certificate Course in Physical Education (CPed) for physical education teachers with SSLC qualification awarded by KSEEB;
7. Bachelor of Physical Education (B P Ed) degree awarded by the universities for high school physical education teachers;
8. MEd, MPhil, M P Ed, and PhD degrees awarded by universities.

Nursery Teacher Education

Growth of Nursery Teacher Training (NTT) Institutions in the State

The first NTT course was established at the Government Maharani's Teacher Training Institute at Mysore in 1928. From 1956, a large number of preprimary schools started coming into existence especially in the private sector. Hence, a need for trained nursery teachers was felt. The government started 3 nursery teacher training courses in the existing primary TTIs at Mysore, Dharwar and Gulbarga. Simultaneously a number of nursery TTIs run by private management also came into existence.

Presently, there are 30 (23 Kannada, 4 English and 3 Urdu) preprimary /nursery TTIs in the state with an average intake of 50 per institute. Of these, 4 are government nursery TTIs (located at Mysore, Dharwar, Gulbarga and Raichur), also functioning as government primary TTIs. The rest are unaided institutions and depend on donations and fees from students.

Facilities in Nursery TTIs

A majority of private institutes are deficient in facilities and equipment according to a survey carried out in 1999 by DSERT. Some have limited library facilities. Since nursery or Kindergarten or Montessori system of education is not part of compulsory primary education, there is lack of adequate supervision of these nursery TTIs which has resulted in lack of quality in them. The KSEEB conducts the examination for the course and issues certificates.

The norms prescribed by NCTE for pre primary training institutions mostly relate to peripheral and physical aspects which are not as important as the core, namely, the nature and content of the course.

Issues in Nursery Teacher Education in Karnataka

1. The curriculum and evaluation pattern of the NTT course have remained unchanged for the past 40 years.
2. Since preschool component has not been brought under compulsory primary education, the state has not given adequate importance to NTT.
3. The first important thrust area of NPE 1986 was ECCE which has not been given focus in the NTT curriculum.
4. The ECCE also includes integration of children with minor disabilities. This aspect has not been given due importance in the NTT course.
5. There is no linkage of the NTT programme with primary schools, as a result of which, the pre school teacher training has become a monopoly of a few private players.
6. The thrust of the present NTT is more urban, private school system oriented.
7. Since a majority of children attend Anganawadis and Balwadis, the pre-school curriculum needs to be oriented towards rural children.
8. NTT certificate is not a compulsory requirement for recruitment of nursery teachers.
9. The service conditions of teachers working in NTT institutes have not been streamlined.
10. There are practically no avenues for these teachers to upgrade their knowledge and skills.

Primary Teacher Education

Historically speaking, primary teacher training started as pedagogic training in Normal Schools as a one-year course for working teachers who had passed the Mulki Examination in Bombay Karnataka area and LS Examination in princely Mysore state. The Teachers' Training College for Men, Dharwar had a 3-year Course. Teachers who completed this prestigious course were highly respected and were eligible to become Taluk School headmasters and, eventually, Inspectors of Schools.

At the time of reorganisation of the state, there were two courses for primary school teachers. Those who had L S/Mulki qualification were admitted to the 2-year TCL course while those with SSLC qualification were admitted to the one-year TCH course. This scheme was continued till 1965-66 when the duration of the TCH course was extended to 2 years and the TCL course was abolished as the qualification for all primary teachers was raised to SSLC.

Consequent to the implementation of NPE 1986, the primary school curriculum was further enriched. Hence, the need for further raising the content and competency of teachers was felt. Accordingly, in 1987-88, the minimum qualification for entry to the TCH course was further raised to a pass with 50% marks in preuniversity (or standard XII) course. The intake of 30 to the TCH course was subsequently raised to 50.

Apart from these regular courses, there were non formal courses in the form of vacation teacher training certificate courses and correspondence teacher education courses for untrained in-service teachers. However, they became defunct when all untrained teachers became trained.

Growth of Primary TTIs

There was a rapid expansion of TTIs in the state, post independence. The implementation of UEE, the rapid expansion of the primary school network in the state and the government's policy to recruit only trained teachers resulted in greater demand for trained teachers. Besides, there was a regular influx of candidates from the neighbouring states of Andhra Pradesh, Tamil Nadu and Kerala into the teacher training courses in the state.

This demand also spawned commercialisation of teacher training which adversely affected the quality of the training in these institutions. The departmental machinery was not equipped to adequately supervise them. Lack of adequate control of admissions, staff appointments and infrastructure resulted in declining quality of trained teachers. There was also the problem of a large number of unemployed primary trained teachers in the state. Hence the government took a decision to ban starting of new TTIs. This ban was in effect for more than two decades.

There were only 134 primary TTIs in the state prior to 2003 (See Table 3.9) which included 20 DIETs, 17 government TTIs, 40 aided, and 57 unaided TTIs. Some of these institutions were offering courses in more than one medium as shown in the table below.

Table 9.1
Medium-wise Distribution of Elementary TTIs (2003)

<i>Sl. No</i>	<i>Medium Of Instruction</i>	<i>Govt. DIETs</i>	<i>Govt. TTIs</i>	<i>Aided TTIs</i>	<i>Unaided TTIs</i>
1.	Kannada	20	16	33	46
2.	English	—	—	6	15
3.	Urdu	6	5	3	3
4.	Marathi	1	—	2	1
5.	Telugu	—	—	—	1

Source: DSERT

When the government lifted the ban on establishment of new TTIs in 2003–04, a large number of new private players entered the scene.

During 2003–04, the DSERT called for applications for starting new elementary TTIs. 898 applications were received. No Objection Certificates (NOCs) were issued by the government for starting of 675 new elementary TTIs. After recognition by NCTE, these institutions started functioning from 2004–05. A total of 639 unaided elementary TTIs were functioning as at June 2006.

Even though the NCTE is the designated authority for granting recognition and fixing the intake, the DSERT coordinates all the academic and administrative activities concerning these institutions – prescribing the curricula, preparation of textbooks, approval of admissions (through the DIETs); approval of appointments of staff in the aided institutions, fixing the academic calendar, disbursement of grant-in-aid (through DIETs), management of government training institutions, constitution of district wise coordination boards, inspection of private institutions through DIETs, etc.

Curriculum of the DEd Course

Drawing from several innovative approaches in the field of primary education, the curriculum for the elementary teacher training programme was revised from the academic year 2002–03 and the TCH course

was renamed as Diploma in Education (D Ed). With this revision of curriculum, the state also became a pioneer in introducing internship (for 3 months) in elementary teacher education in the country.

The Examination to the D Ed course is conducted by the Director (Other Examinations), KSEEB, Bangalore.

Training of Language Teachers

In 1956, there were 3 separate courses (Kannada Pundit, Hindi Munshi and Urdu Moulvi) in the Government Teachers' Training College, Mysore for training language teachers. The duration of these courses was 4 years and the students were mainly taught content in these languages. At the end of the course the KSEEB conducted the examination and issued certificates. Candidates possessing these qualifications became Kannada Pundits/Hindi Munshis / Urdu Moulvis in high schools.

When the government raised the minimum qualifications of language teachers in high schools to that of graduate trained teachers, the above language teachers' courses became defunct. Recently, an attempt has been made to raise the standard of the Kannada Pundit course taught in Sri Siddaganga Teachers' Training Institute, Tumkur, to degree level by changing the duration of the course to 5 years, so that candidates passing it will become eligible to take up the B Ed course.

Centralised Admission Cell (CAC)

Admissions to government quota seats in TTIs is controlled by rules and regulations made by the CAC, Bangalore. In 1994-95, the state government took a policy decision to control the admission process in government, aided and unaided primary (D Ed course) and secondary (B Ed course) institutions, to enable merit and roster candidates to secure admissions easily.

Admission to the government quota seats in the D Ed course is through the CAC and is by counselling on the basis of a computerised list of merit cum roster system. The candidate must have passed II PUC/XII standard or equivalent examination with a minimum of 50% of total marks. In respect of SC/ST/Category I/PH candidates, the minimum marks is 45 %. A minimum of 50% seats are reserved for women candidates in each category. 50% of seats are allotted to science candidates and 50% to arts candidates. 3% of seats are reserved for physically handicapped candidates. The government quota in government institutions is 100%, in government aided institutions, it is 75%, in private unaided institutions, it is 50% and, in private minority institutions, it is 25%.

There are a number of challenges that the teacher education sector is facing today.

Inadequacies in the Elementary Teacher Education Sector

1. The state government/NCTE have permitted/recognised hundreds of TTIs after 2003 both at the elementary and secondary levels when there was actually no need.
2. The NCTE/state government have failed to maintain quality in these newly established TTIs.
3. Every year due to heavy workload the NCTE is unable to finalise the list of recognised institutions (with intake) before June for transmission to the state government. This further delays the entire admission process by quite a few months.
4. The NCTE norms for selection of teacher educators are very rigid. As a result, the newly started institutions are unable to maintain a teacher pupil ratio of 1:12. In some cases, a teacher educator finds his name on the rolls of several institutions.
5. In respect of elementary TTIs, as per the present norms, the faculty should have a minimum M Ed degree. Since there are no institutions in the state offering M Ed (Elementary Education) course, the faculty after completing B Ed and M Ed courses pertaining to secondary education, become teacher educators in elementary teacher education institutions with no experience of teaching in elementary schools. Hence, they confine themselves to teaching theory resulting in poor standards in student teachers. This situation needs rectification urgently.

6. Student teachers who pass out of these training institutions get appointed in remote rural schools and encounter first generation learners, heavy dropouts in upper primary schools, large number of children with special needs, a majority of children belonging to disadvantaged groups, a variety of departmental programmes aimed at enhancing enrolment and participation, lack of effective community support, and above all a multi cultural and multi lingual environment which baffles them. These teachers have to deal with multigrade and multi level situations every day in their classrooms for which they have been least prepared.
7. Our primary TTIs are located in towns and cities and our teacher educators who are mostly secondary teachers are completely unaware of the actual conditions existing in our primary education system in rural areas. Hence there is need to specify that at least 50% of the practice teaching lessons must take place in rural schools under the supervision of local Head teachers.
8. Our TTIs lack the know-how in training teachers to prepare TLMs relevant to classroom teaching in activity based modes.

Secondary Teacher Education

Growth of Secondary Teacher Training Colleges in the State

A Secondary Teachers' College was established in 1939 with the Government High School as a practising school in Belgaum. In 1947, a separate University Teachers' College with an attached demonstration (practising) school was started in Mysore. The teacher training course in Government Arts and Science College, Mangalore was separated and converted into an independent Government Teachers' College with an attached Demonstration High School in 1950.

With the implementation of the Kothari Commission report, the minimum qualification for a teacher teaching high school classes was a BA/B Sc degree along with a training degree. The increase in the number of secondary schools led to the requirement of additional trained graduate teachers. The revision of the pay scales for trained graduate teachers and stoppage of increments for untrained teachers forced many untrained teachers to seek admission to B Ed colleges.

The following table gives the growth of teacher training colleges in the state from the time of independence till 1971. The increase in the number of colleges and enrolment in 1956-57 was due to integration of the state. There was one teachers' college exclusively meant for lady students (St. Anne's Teachers College, Mangalore) during the period and all the other colleges were coeducational colleges.

Table 9.2

Growth of Secondary Teacher Training Colleges

Year	Teacher Colleges	Boys enrolment	Girls Enrolment	Total
1947 - 48	1	33	15	48
1950 - 51	1	60	18	78
1955 - 56	3	204	72	276
1956 - 57	7	454	132	586
1960 - 61	9	605	167	772
1965 - 66	17	1,216	357	1,573
1970 - 71	18	2,207	707	2,914

Source: *Twenty Five Years of Education in Mysore State*

Since B Ed degree was made compulsory for recruitment of teachers in high schools, a number of private teachers' colleges were established subsequently. This also led to commercialisation of the teacher education sector in the state. In the secondary teacher education sector, there were 70 colleges of education (each with a sanctioned intake of 100) providing the one-year B Ed degree in 2002-03.

Table 9.3

Secondary Teacher Training Colleges (2003)

Teacher Training Colleges	Number
1 Government Colleges of Teacher Education	6
2 University College of Education, Dharwar	1
3 Private aided B Ed colleges	22
4 Private unaided B Ed colleges	39
5 Ramakrishna Institute of Moral Education, Mysore	1
6 Regional Institute of Education, Mysore	1
Total Number of B Ed Colleges	70

Source: DSERT Report 2006

The Ramakrishna Institute of Moral and Spiritual Education, Mysore offers a 1-year compulsory residential B Ed course, with Moral and Spiritual Education as one of the two methods of teaching. Regional Institute of Education has been offering a 2-year B Ed course of 4 semesters for the past 3 years. Both the RIE and JSS Institute at Mysore offer a 4-year integrated B Ed course after PUC.

The secondary teacher training colleges are affiliated to various universities in Karnataka state. The curriculum is prescribed by the respective universities and the examination is also conducted by them. The NCTE is the designated authority in granting recognition to these colleges every year. The intake is fixed uniformly at 100 seats per college. The DSERT coordinates the management of all the secondary teacher education colleges in the state. It also disburses grant-in-aid to them and approves appointments of staff in aided colleges.

The B Ed course normally consists of Part I comprising 5 theory papers (3 General and 2 Special Methods of Teaching) and Part II containing practical work and internal assessment. Some universities also have an additional optional paper in special subjects like Population Education, Education Technology, Value Education, Adult Education, Environmental Education, etc. All the universities in Karnataka (except Bangalore University) have constituted Coordination Boards with Principals of B Ed colleges as members and Heads of the Department of Education of the University as Chairperson. This Board visits every B Ed college within the university for moderation of internal assessment and to check malpractices. But over the years, there has been broad divergence in the award of internal assessment marks between universities with some universities also adopting the semester system. Efforts to introduce a uniform B Ed curriculum for the entire state has not yet yielded results so far.

Evening Courses and Correspondence Courses

To clear the backlog of untrained teachers, several teacher training colleges (especially R V Teachers' College and MES Teachers' College at Bangalore) conducted evening B Ed course of 2-years duration for the benefit of untrained graduate teachers working in primary, nursery, and unaided schools.

The Regional College of Education, Mysore (now known as the Regional Institute of Education) started a vacation course of 2 years' duration covering 2 summer vacations (1967-68). The Bangalore and Mysore

Universities also started a 2-year correspondence cum vacation courses offering the B Ed degree. This attracted a large number of candidates as the students could complete the B Ed degree at leisure and without paying donation.. The Institute of Correspondence Course and Continuing education established in Mysore in 1969 has grown into a full fledged university called the Karnataka State Open University (KSOU) which is also running a 14-month correspondence course in B Ed degree from 1976 for the benefit of a large number of graduate teachers working in various primary schools of the state.

Indiscriminate Expansion of Secondary Teacher Training Colleges

During 2003–04, fresh applications were called for starting of new secondary teacher training colleges by the universities. 431 applications were received of which 293 were given NOCs by the government. After recognition by NCTE, these institutions started functioning from 2004 – 05. As at June 2006, 327 unaided secondary teacher training colleges were functioning in the state.

Table 9.4
University wise Distribution of
Secondary Teacher Training Colleges in the State (2006)

<i>University</i>	<i>University College</i>	<i>Govt. Colleges</i>	<i>Aided Colleges</i>	<i>Unaided Colleges</i>	<i>Total</i>
Mysore	0	1*	6	22	29
Bangalore	0	0	6	131	137
Karnatak	1	2	1	65	69
Mangalore	0	1	2	9	12
Gulbarga	0	1	1	57	59
Kuvempu	0	1	5	31	37
Tumkur	0	0	1	12	13
Women's Bijapur	1	0	0	0	1
Total	2	6	22	327	357*

Note: * excludes RIE, Mysore, which is a part of NCERT

Source: DSERT

Fee Pattern in Secondary Teachers' Training Colleges

The fee pattern was Rs 3,000/- in government colleges and government seats in private aided colleges; Rs 6,000/- for government seats in private unaided colleges; Rs 8,000/- for management seats in private aided colleges and Rs 30,000/- for management seats in private unaided colleges. (See Table 19.8). But in spite of this government prescribed fee, the private managements used to charge a higher fee once the students were admitted.

Central Admission to the B Ed Course

In 2000–01, the government introduced an entrance test for admission to the government quota seats in the B Ed course. Now, these government quota seats are filled up by a written test and on merit-cum-roster selection basis through the CAC every year. Regional Institute of Education, Mysore (a unit of NCERT) and Ramakrishna Institute of Moral and Spiritual Education, Mysore are outside the central admission system.

The government quota seats are 100% in government and university colleges, 75% in government aided colleges, 50% in private unaided colleges and 25% in private minority institutions.

For admission to the B Ed course, the candidate should have secured not less than 45% aggregate (40% in respect of SC/ST/PH candidates) in the 3-year degree examination and should have studied any one of the languages and three electives specified below:

Languages – English, Kannada, Hindi; Urdu, Sanskrit, Marathi

Electives – Physics, Chemistry, Botany, Zoology, Mathematics, History, Political Science, Sociology, Geography, Economics

Table 9.5

**The Government Quota Seats Allotted
Universitywise and Groupwise (2006 – 07)**

University	Arts	Science	Total
Mysore	1212	361	1573
Bangalore	3498	234	3732
Karnatak	2876	741	3617
Mangalore	489	184	673
Gulbarga	2546	503	3049
Kuvempu	1614	391	2005
Tumkur	527	125	652
Total	12762	2539	15301

Source: CAC

Note: Bijapur University admissions have been included in Karnatak University figures

Achievements of Karnataka in the Teacher Education Sector

The teacher education sector has a number of achievements to its credit.

1. Because of the early expansion of this sector, the state now has only trained teachers both in elementary and secondary education sectors in government as well as private schools.
2. A number of innovative initiatives that have taken place in elementary education have rubbed off on the elementary teacher education sector as well—Nali Kali, Chaitanya, Multi grade teaching initiatives, etc. However, the same cannot be said about pre school and secondary teacher education levels.
3. The sector has been dominated by private unaided institutions which have catered to the needs of neighbouring states in a major way.
4. Admission through the CAC has contributed significantly to admission of meritorious candidates in teacher training institutions. The common admission procedure has also ensured equity.
5. The prescription of NCTE norms and standards is a welcome development as there were no such standards previously in the sector. This has also helped to bring uniformity in standards and procedures followed in the training colleges.

Inadequacies in the Secondary Teacher Education Sector

The following inadequacies have been noticed in the secondary teacher education sector:

1. This sector works in isolation from schools and other levels of teacher education.
2. The unprecedented expansion in the sector has cast serious doubts on the quality of new institutions.
3. The current duration of the secondary teacher education programme (10 months) is insufficient to master any skill/technique/ competence.
4. The universities have autonomy in offering courses and content at the I degree level which is generally not designed to equip students who desire to become secondary school teachers. This is especially true in respect of graduates from the Arts stream. Areas of content in the science curriculum also do not bear resemblance to what should be transacted at the secondary level.
5. The admission process to the B Ed course takes nearly 5 months and the academic year in most of the B Ed colleges now begins only in October/November which directly affects the academic work of all the colleges as it does not correspond to the regular school calendar, thus adversely affecting practice teaching and its quality, as schools are unwilling to spare classes for student teachers in the second half of the academic year.
6. Practice teaching has turned out to be a ritual rather than a hands-on experience as regular school teachers are reluctant to part with their teaching hours due to the pressure of completing portions.
7. A common academic calendar for all the B Ed colleges could not be worked out by DSERT year as the academic work in each university varies; also, some universities have opted for the semester system for the B Ed course.
8. A student admitted to the annual scheme completes the B Ed course within 10 months whereas one who gets admission to the semester scheme takes 13–14 months for completion. This has adverse consequences for candidates in the job market.
9. Lack of internship training in the B Ed course deprives a student teacher firsthand experience of all the academic activities in a school and classroom transaction processes.
10. Thousands of trained teachers who are passing out of these institutions find their prospects of getting jobs very bleak as the existing requirement of teachers in the state is extremely limited.
11. A majority of the colleges try to boost internal assessment of candidates to secure good results.

The sub sector study on teacher education has raised the following issues which are yet to be addressed by the state:

1. Language teachers are receiving inadequate training both at the elementary and secondary teacher education levels.
2. There is need for field testing the methodology of teaching Kannada and other languages, and use of technology and communication techniques.
3. No teacher education institution has language laboratories.
4. During recruitment of teachers, proficiency in language should be a necessary condition.
5. There is no organised academic supervision of the training institutions resulting in teachers becoming unaware of the latest experiments taking place in the field.
6. The assessment is biased. Both internal and external valuation was found to have no validity and hence unreliable.

Hindi Shikshak Training Course (Equivalent to B Ed Degree)

Hindi got a special impetus with the introduction of the three language formula. Since the introduction of Hindi as a (compulsory) third language from V standard in all higher primary schools, there was a constant demand for Hindi teachers both in government and private schools.

With the inclusion of V standard in the lower primary cycle, Hindi is now introduced as a third language from VI standard in higher primary schools. While it is invariably taught as a third language in most secondary schools, some offer it as a first language. Basic Hindi courses, however, are being conducted by several private Hindi organisations.

As far as posts of Hindi teachers were concerned, the part-time ones were later converted to full-time under grants provided by the MHRD. Later, the training qualification became mandatory along with the graduate equivalent qualification of Hindi Ratna.

The Hindi Shikshak course (run by Mysore Hindi Sahitya Parishad, Bangalore) came into existence in 1953. In 1956, the state government withdrew the permission given to Hindi institutions and started the course at Mysore. It received central assistance also. In 1984-85, permission was given to Karnataka Mahila Hindi Seva Samiti, Chamarajpet, Bangalore, to start the course of one year duration. In 1993-94 a separate syllabus for this course was formed and it was treated as equivalent to B Ed degree. At present, there are one government and 17 unaided colleges running the one-year Hindi Shikshak course, each with an intake of 60. The KSEEB conducts examinations for this course.

Additionally, the Dakshina Bharat Hindi Prachar Sabha also conducts the Hindi Shikshak course. A teacher qualified in it along with the basic qualification equivalent to degree (Hindi Ratna) is considered to be a trained Hindi teacher and thus is eligible for a trained teacher's scale of pay.

Postgraduate Courses in Teacher Education

After the integration of the state in 1956, there was a rapid increase in the number of teacher training colleges in the state. Initially, M A/M Sc and B Ed was the minimum qualification for a lecturer in a B Ed college. When M Ed was declared as the requisite qualification for the staff of teacher training colleges, there was a greater demand for the universities to start M Ed courses. Initially, universities introduced M Ed by thesis of two years duration. They also ran a vacation M Ed course of the same duration. Bangalore University ran a 2 year M Ed course (through R V teachers' college and MES Teacher' College) which was discontinued later.

The universities also introduced a regular full-time 1 year M Ed course with 5 theory papers and a dissertation. Some reputed private teachers' colleges are also running the full-time M Ed course—Dr T M A Pai College of Education, Udupi, and St. Anne's College of Education, Mangalore. Karnatak University has been offering a 2 year vacation course since 1949-50. Other universities (or affiliated colleges) also offer the 2 year vacation/evening course.

The postgraduate departments in all the universities (Mysore, Bangalore, Karnatak, Mangalore, Gulbarga, Kuvempu and Karnataka Open University)) have M Ed, M Phil, and PhD courses in education. While entrance tests are conducted for admission to the M Ed course, there is also a separate quota for the government. DSERT deputed eligible staff (on an average, 30 per year) to the M Ed course from TTIs under this quota.

Physical Education Teachers' Training Courses

Earlier, there were only drill masters or drill instructors handling physical exercises as well as games in schools. Concurrent with physical training, Scouting became popular as an optional field for developing discipline and character.

In 1939, trained graduate teachers who were teaching general subjects were deputed to the Training Institute in Bombay for the Diploma in Physical Education (DPed) course by providing one increment as incentive. Later, with the establishment of a graduate level Physical Education Course in Gwalior, a number of graduate teachers were deputed to this course. When Physical Education became a compulsory subject in primary and secondary school curriculum, separate cadre of physical education teachers was created.

Recently, under the NCTE norms, the one year C P Ed course has been converted into a 2 year course. Curriculum has been revised to make it at par with the D Ed course as physical education teachers also receive the same scales of pay as regular primary teachers. The management of DPed institutions was shifted to DSERT from the CPI's office in 2005-06.

The B P Ed course was originally started in 1964 in Government College of Physical Education situated at the Kanteerava Stadium, Bangalore. The Bangalore University took over the college in 1976, shifted it

to the Jnana Bharati Campus and renamed it as University College of Education. The college runs 1 year B P Ed and M P Ed courses. Apart from this college, there are 10 colleges (with an average intake of 50 each) running B P Ed courses in the state. Other universities also run M P Ed courses as a part of the Postgraduate programs. As on date there are 1 government, 3 aided, 41 unaided Physical Education colleges in the state. A majority of these private institutions lack proper infrastructure facilities.

The State Board of Teacher Education

The State Board of Teacher Education was constituted in 1983 and was in existence for 2 years. The Board acted as an advisory body to the government on all aspects of teacher education. The state government has not reconstituted the Board again.

The Karnataka Education Act 1983 also envisaged a State Education Advisory Council with standing committees for different levels of education including teacher education. The state is yet to constitute these bodies.

Administration and Supervision of Teacher Education Institutions

All private educational institutions in the state are established and managed under the statutory rules and regulations laid down by the state government from time to time. They are also governed by the provisions of the Karnataka Education Act and rules framed under it. Permission, recognition, approval, conditions of service, intake, staff pattern, infrastructure and grants-in-aid are all regulated under these provisions.

Teacher training institutions are supervised by the government through the DSERT. The elementary TTIs are under the jurisdiction of the Secretary, Primary and Secondary Education. The curriculum revision (along with prescription of textbooks) is done periodically by DSERT. The academic supervision, permission, assessments, constitution of coordination committees are done through the DIETs by DSERT. The 2 year D Ed examination is conducted by the KSEEB.

As far as the secondary teacher training colleges (B Ed, M Ed, and B PEd courses) are concerned, they are under the jurisdiction of the Secretary, Higher Education. DSERT administers Government Teachers' Colleges and disburses grants to aided B Ed colleges. The academic supervision and examinations are conducted by the respective universities under the Karnataka University Act 1976.

National Council for Teacher Education (NCTE)

The NPE 1986 and the POA thereunder envisaged a National Council for Teacher Education with statutory status and necessary resources as a first step for overhauling the system of teacher education.

The NCTE as a statutory body came into existence in pursuance of the National Council for Teacher Education Act, 1993 (No. 73 of 1993) on the 17 August, 1995. The Act visualised a planned and coordinated development of quality teacher education in the country and enjoined upon NCTE to ensure maintenance of norms and standards in all the teacher education institutions in the country.

The NCTE acts as a regulatory body for all teacher education institutions in India. Since 1995, they are bound by law to seek its recognition for which "Norms and Standards" for each category have been laid down.

The main objectives of the NCTE are

1. Achievement of planned and coordinated development of the teacher education system throughout the country;
2. Regulation and proper maintenance of norms and standards in the teacher education system and related matters.

The mandate given to the NCTE is very broad and covers the whole gamut of teacher education programmes including research and training of persons for equipping them to teach at preprimary, primary, secondary and senior secondary stages in schools, and non-formal, part-time, adult and distance (correspondence) education courses.

As envisaged in Section 20 of the NCTE Act there are 4 regional committees of the NCTE, looking after its statutory responsibilities in respect of teacher education institutions in the eastern, western, northern and southern regions. These are located at Bhubaneswar, Bhopal, Jaipur and Bangalore respectively, headed by a Regional Director. The Southern Regional Centre (SRC) covering the states of Karnataka, Tamil Nadu, Andhra Pradesh, Kerala and Pondichery is located at Bangalore.

The main functions of the regional committees are consideration of applications of teacher education institutions for recognition, permission for starting a new course or training, increase in annual intake, withdrawal of recognition for contravention of provisions of the NCTE Act and other matters connected therewith.

Initially the NCTE did commendable work by pulling up both government and private teacher education institutions having inadequate infrastructure and insufficient qualified staff. Even though it has prescribed norms regarding staff, equipment, buildings and other infrastructure for various types of teacher education institutions it has not been possible to enforce them due to insufficient staff for monitoring and existence of a large number of institutions in each state.

The NCTE has confined itself to a licensing role by giving recognition to existing and new teacher education institutions. It has totally failed to check the proliferation of unscrupulous private teacher education institutions which are virtually teaching shops. As a professional body in existence for more than 10 years, it has not been able to fulfil its broader goal of developing quality teacher education in the country.

Quality Issues in Teacher Education

Quality Issues—Elementary Teacher Education

The century old teacher education system in the state has served the very limited purpose of narrow pedagogy related classroom teaching. The teacher education curriculum needs a thorough overhaul if the challenges of a knowledge driven global community have to be met.

Improvement of quality of schooling is crucially dependent upon the teacher himself. Over the years, the profile of children entering school has changed radically. Because of the state's efforts to universalise elementary education, the children who are at present entering school are first generation learners, those from economically weaker sections, or a migrant population and those from urban slums who have had no access to education previously.

The present-day teacher is not equipped to handle such children because the training methods have not been updated. The theory dominated pre-service curriculum is not related to ground realities. The teaching practice sessions during pre-service training do not enable student teachers to handle multi grade/multi level situations in the classrooms or the meaningful and creative learning activities which are emphasised by modern experiments in the elementary education field. Even the revised DEd syllabus prepared in 2003 suffers from the same inadequacies.

Apart from the above, the rising aspirations of parents to get good quality education (especially English education) for their children has made the task of the teacher more demanding. Hence, it is necessary to define roles and responsibilities of teachers at all levels (elementary, upper primary, secondary), in various contexts (rural, urban) and in different types of schools (single teacher, double teacher, multi teacher).

We may recall that the profile of children entering schools has changed considerably. Accordingly, skills that teachers need have expanded tremendously calling for increased use of technology and mass media. Training institutions are yet to adapt themselves to this growing demand. Thus, one finds that

infrastructure in these institutions needs to be revamped to include computers, internet, LCD projectors, digital libraries, etc. Every TTI must have one faculty to impart computer and computer based education. Student teachers need to equip themselves in planning computer based lessons, use technology aids and other multimedia and enhance their teaching skills. The state must treat teacher training courses at par with other professional courses.

The large proliferation of private unaided TTIs (from 2003 onwards) has created a host of problems as granting permission has not been based on the principle of demand and supply in most cases. There are not enough experienced teacher educators to service these institutions and hence a majority of them are providing substandard education to student teachers.

If teacher education has to meet these challenges, the nature and structure of both pre-service and in-service education must be transformed.

Quality Issues—Secondary Teacher Education

Since the secondary teacher training colleges are under the academic control of universities, the curriculum for the B.Ed course is not uniform throughout the state. The theory based curriculum is far from the realities in the field apart from being outdated. As a result, the trainees are not exposed to new theories and experiments in the field of education.

A committee of principals of training colleges has prepared a uniform syllabus which needs to be adapted by all the universities in the state. Also, the current system of evaluation lacks credibility. There are a large number of first classes and distinctions and virtually no failures.

Issues in Pre-Service Teacher Education

1. The number of teacher education institutions in Karnataka is far in excess of its requirements. Earlier they used to cater to the needs of the neighbouring states also. This is no longer the case as a sufficient number has been established in these states.
2. There has been a phenomenal expansion of private TTIs from 2003, and their only objective appears to be to make quick money. Teachers coming out of these institutions lack quality and, rather than reducing, seem to be contributing to poor standards that exist in schools.
3. The NCTE and the state are directly responsible for the lopsided growth of these institutions. Neither DSERT (in respect of primary TTIs) nor the universities (in respect of secondary teacher colleges) have made any efforts to enforce quality and standards in these institutions.
4. This has also resulted in an exponential growth of unemployment both among primary and secondary trained teachers. Unfortunately, they cannot find employment outside the state too as a majority are trained in Kannada medium.
5. There is acute shortage of qualified teacher educators in the state. As a result, some of the appointments made by private teacher education institutions appear only on paper to satisfy the NCTE norms. In effect, under-qualified teachers are handling the training classes.
6. A bulk of the marks in the B Ed / D Ed courses pertain to internal assessments. Even though these are moderated by the Coordination Boards, they are still too high. As a result, majority of the students, who have obtained average marks in the previous qualifying examinations, pass with a first class in the B Ed/ D Ed examinations.
7. There is a serious gap between the training imparted to the teacher trainees and actual needs of schools. Sufficient number of designated practising schools are lacking making the block practice teaching by the teacher trainees a mere formality.
8. The staff of DIETs who are supposed to guide these institutions are periodically transferred. The new incumbents may not have any experience in the teacher education sector as the posts in the administrative line and in the DIETs are interchangeable.
9. A majority of training institutions work in isolation. Their understanding of the significance of various academic experiments being carried out in the field is inadequate.

10. Teacher trainees at the primary level are not adequately exposed to multigrade situations and hence they are poorly prepared to face the actual situations when appointed.
11. Very few teacher educators can train student teachers in analysis of learning gaps, diagnostic testing, and remedial teaching. Student trainees lack the necessary skills in evaluation procedures. Thus, teachers do not have the expertise in skills to handle these areas as well as others such as preparation of question papers based on blueprints and action research.
12. Hence, freshly trained teachers find it difficult to adjust to classroom situations. The linkage between teacher training institutions and schools is, at best, tentative.

Recommendations of the Perspective Plan Committee

Case for Establishment of a University for Teacher Education

Since a number of teacher education institutions have come up both at the primary and secondary levels, and since it is absolutely necessary to bring in uniformity in academic calendar, standards, examinations and quality in these institutions, the committee in its first report has strongly recommended that the government constitute a separate university for teacher education in the state.

The number of BEd colleges in the state which was 69 in 2003 has now increased to nearly 400 while the number of DEd colleges which was 140 has increased to nearly 700. Obviously, the universities and other monitoring and supervisory bodies like DSERT/NCTE are unable to cope with this ever increasing number which has a direct bearing on declining quality in these institutions. The NCTE, which recognises these institutions hardly has the time and manpower to visit them even once a year. Universities too lack the expertise to supervise them. While lack of qualified people to man this huge number is the single most critical factor, absence of uniformity in curriculum of the B Ed course across the state has also contributed to dilution in quality.

Disparity in the annual calendar, academic programme, syllabus, holidays, special subjects, methodology of teaching, examination system, system of internal and external assessment, coordination committee, pattern of question papers and declaration of results has made it a daunting task to either specify or monitor standards of quality.

While the average marks in internal assessment is fixed at 75% in one university, it is 90% in another. Some follow the semester system whereas some others follow the annual system. The delay in declaration of results by some universities adversely affects employment opportunities of students.

The constitution of a separate university for teacher education with a state-wide jurisdiction, can help overcome these problems, and efforts to bring in quality in the teacher education sector will definitely succeed. A single university can bring uniformity in the admission process as well as declaration of results. Besides BEd and DEd courses, supervision and examination of the following teacher training courses (both graduate and diploma) may also be entrusted to the university—Music, Dance, Drama, Drawing and Painting, Sanskrit Education, Physical Education and external BEd.

Chapter 10

In-Service Teacher Training

Recommendations of Various Commissions

The University Education Commission headed by Dr S Radhakrishnan and Secondary Education Commission headed by Dr Laxamana Swamy Mudaliar emphasised the need for quality improvement and diversification of teacher training courses. The Kothari Commission had recommended in its report that every teacher should be compulsorily exposed to in-service orientation/refresher courses once in every 5 years of his/her service.

These in-service programs also help in improvement of the teachers' knowledge, skills and motivation levels. Further, the teachers also get exposed to new techniques of teaching and evaluation. Periodic training of teachers also helps tone up the health of the school system.

Establishment of Extension Services Centres in Training Colleges

To enable the teachers in service to improve their professional competence and update themselves, the first Department of Extension Service Centre was started in the University Teachers' College, Mysore in 1955-56. Later with financial support from the union government, extension service centres came into being in 4 selected government and 3 private training colleges in the state. Dr. T M A Pai College of Education, Udupi, also did a commendable job in running a full-fledged extension centre with its own funding.

These centres contributed significantly by training high school teachers in content and pedagogy. The administrative control of these centres was originally with the NCERT and was taken over by the state government in 1971-72. With the reduction and eventual stoppage of grants for the in-service programmes, they slowly became defunct.

Establishment of Academic Structures for Teacher Training

The establishment of State Institution of Education (SIE) at Dharwar in 1964 heralded the era of in-service teacher training programmes for both primary and secondary teachers in the state. This institution was shifted to Bangalore in 1975 and merged with the various academic units of the department to form the monolithic DSERT.

From then, DSERT took on an academic leadership role by designing in-service programmes, preparation of handouts, training Master Resource Persons (MRPs) and canalising funds for training programmes. The establishment of DIETs and CTEs in 1993 and subsequently that of BRCs under DPEP helped to take in-service training programmes to the grassroots level on a large scale in an organised manner.

The professional bodies of teachers play a significant role in maintaining and improving the quality of classroom transaction of teachers. Some of the Head teachers' associations and teachers' associations at district level actively conduct orientation programmes for teachers. These associations also prepare bridge course material, question banks in various subjects and teachers' guides for use by the classroom teachers.

Elementary In-service Teacher Education

The DSERT formulates plans and coordinates the implementation of the various primary teacher training programmes at the state level. The structures of DIETs at the district level, BRCs at the block level, and CRCs at the cluster level, are used to conduct various training programmes for teachers.

The objectives of these in-service training programmes are

- To provide support for continued professional development of teachers after they join service.
- To strengthen the knowledge base of the teachers keeping in view the developments in the field.
- To acquaint and help teachers to employ many child-centric approaches for improved curricular transaction.
- To give valuable pedagogic inputs for classroom transactions and also develop various competencies to help the teachers become facilitators and guides.
- To help teachers play multiple roles effectively and efficiently.

The Central Scheme of Teacher Education

The NPE 1986 gave importance to teacher education with special emphasis on providing quality training to primary teachers. After adoption of the NPE 1986, in pursuance of its provisions of teacher education, a Centrally Sponsored Scheme (CSS) of Restructuring and Reorganisation of Teacher Education was approved in October 1987, by the GOI. The five components of this CSS are

1. Setting up of DIETs to organise pre-service and in-service courses for elementary school teachers and for personnel working in NPE and AE sectors.
2. Strengthening of Colleges of Teacher Education (CTEs) and development of about 50 of them as Institutes of Advanced Studies in Education (IASEs).
3. Revitalisation of State Councils of Education Research and Training (SCERTs).
4. Mass Orientation of School Teachers (MOST) under a planned programme to be implemented under the supervision of NCERT.
5. Establishment and strengthening of Departments of Education in the universities through University Grants Commission (UGC).

Establishment of DIETs

DIETs were established primarily as pace-setting and innovative institutions to lift primary teacher education to a professional level. In fact, DIETs were conceived to be the 'Academic Lead Institutions' and 'Centres of Excellence' in education in each district.

The DIETs were established with a view to

1. Provide pre-service and in-service education to elementary teachers, Head teachers, and educational officers such that they ensure excellence in education.
2. Provide in-service education to the functionaries of NFE and AE as well as train members of school management committees.
3. Plan and manage teacher education and other related activities in the districts.
4. Develop curriculum, TLMs and techniques of evaluation.
5. Provide resource support to elementary, adult and non-formal education in the districts.
6. Take up action research and experiments in education for quality improvement.

The major task of the DIETs is to offer superior quality in-service and pre-service programmes for primary school teachers and personnel of AE and NFE. The DIETs are required to take up initial and incumbent teacher training; plan and manage all training programmes in the district; take up research and

development (R&D) projects; curriculum and material development work, coordinate innovative activities; provide support to schools in conducting work experience activities; train teachers in the use of education technology and development of low cost and no-cost gadgets, evaluation, etc.

Location of DIETs in Karnataka

In 1993, 8 DIETs were set up in the state. Subsequently they came up in all the remaining 12 revenue districts by upgrading the existing primary TTIs into DIETs.

These 20 DIETs are located at Bangalore (Rural & Urban), Mandya, Mysore, Kudige (Kodagu), Mangalore, Hassan, Kolar, Tumkur, Chikkamagalore, Shimoga, Dharwar, Belgaum, Kumta (Uttara Kannada), Ilkal (Bagalkote), Kamalapur (Gulbarga), Bidar, Yarmarus (Raichur), Bellary and Davanagere.

Based upon the Teacher Education Perspective Plan for Karnataka prepared and submitted by DSERT, 7 more DIETs were sanctioned in 2005 – 06 for the newly created revenue districts. These new DIETs are located at Chitradurga, Udipi, Bijapur, Koppal, Chamarajanagar, Haveri and Gadag.

The DIET Structure in Karnataka

In form and structure, DIETs have great similarity with state and national level institutions like SCERT and NCERT. Karnataka has followed the 7 branch pattern in establishing the DIETs. The 7 branches are

- Pre-service Teacher Education (PSTE)
- District Resource Unit (DRU) for AE and NFE
- Work Experience (WE)
- In-service Programmes, Field Interaction and Innovation Coordination (IFIC)
- Curriculum, Material Development and Evaluation (CMDE)
- Education Technology (ET) and
- Planning and Management (P&M)

A 14 member governing council, headed by the CEO of the ZP of the district, has been constituted in 1996 for each DIET to plan, approve, review and monitor its activities. In addition, the DIETs also have an executive committee with the Divisional Joint Director as Chairman, the District DDPI and Vice Principal as members, and Principal of the DIET as Member Secretary.

The staffing pattern in each of the older 20 DIETs is one Principal (DDPI cadre), 7 Senior Lecturers (Junior Class I cadre), and 17 Lecturers (Class II cadre) with other non-academic support staff. The staffing pattern in the newly established DIETs is one Principal (DDPI cadre), 6 Senior Lecturers and 9 Lecturers with other non-academic support staff. The reason for reduced staff in the new DIETs is that they do not have the PSTE wing and are required to concentrate only on in-service training programmes.

Funding of the DIETs

The DIETs are being funded under the centrally sponsored scheme of Teacher Education of the GOI. Besides salaries, the central government funds the programmes of each DIET to the tune of Rs 8 lakhs. Under SSA, every DIET gets substantial funds (depending upon the number of teachers in their jurisdiction) for conducting in-service teacher training programmes for primary teachers.

The DIETs prepare their annual plan, based on the needs of the district and then send it to DSERT for scrutiny and approval. In respect of training programmes funded by SSA, the DIETs' plan also forms a part of the district SSA plan. For both types of programmes, the funds are released through the DSERT.

Additional Functions Performed by DIETs

DIETs provide academic leadership in elementary education in their respective districts. Apart from the designated functions (pre-service and in-service programmes), DIETs carry out the following important additional activities:

1. Some DIETs, i.e. in Kodagu and Belgaum, are catering to issues related to tribal education (with a large number of out-of-school children). DIETs located in six districts, namely, Belgaum, Gulbarga, Tumkur, Kolar, Davanagere and Bidar, have an additional responsibility of catering to the teachers teaching in schools belonging to linguistic minority groups of Marathi, Urdu, Tamil and Telugu.
2. Each DIET designates one of its faculties as a nodal officer for each educational block in the district. This officer supervises all the academic activities of the department. He visits the schools periodically and follows up the training programmes.
3. The DIETs also coordinate all the technology initiatives of the department—computer education in primary and high schools – Mahiti Sindhu, Revised class project, eleventh finance commission project, ICT@ Schools project and also computer assisted learning centres financed by SSA and run by APF.
4. They monitor the distance mode programmes: Keli-Kali (radio), teleconferencing and Edusat (TV) programmes.
5. They are entrusted with the evaluation of the Akshara Dasoha (hot cooked midday meal programme) and take part in evaluation of schools conducted by KSQAO.
6. They coordinate various educational interventions like "Baa Marali Shalege" – (Back to School) "Baa, Bale Shalege" (Girl, Come to School), "Cooliyinda Shalege" (Labour to school), Chinnara Angala (Summer Bridge Courses), "Samudayadatta Shale" (School towards Community), which have tremendous significance in bringing out-of-school children to the mainstream and retaining them. These activities are monitored by the DIET staff, and the necessary support and guidance is extended to the district DDPI.
7. They act as nodal centres for the CAC, Bangalore in the admission process to government quota seats in all elementary and secondary teacher training institutions in their respective districts.
8. They have another major responsibility of taking up periodical inspections and visits of all elementary TTIs in the district. They also form coordination committees which supervise the internal assessment of students in these institutions and coordinate with the DSERT and KSEEB at the district level.
9. They conduct all departmental examinations conducted by Karnataka Public Service Commission and examinations conducted for teacher recruitment both at the primary and secondary levels by the CAC.
10. Since the launch of the SSA programme, the training of all in-service teachers in the district has been the sole responsibility of the DIETs.

Some of the programmes conducted by these DIETs are

1. Training in preparation of action plans to BRC and CRC coordinators
2. IED training programmes
3. Head teachers' training programmes
4. English language training programmes
5. Workshops for teachers of Mahiti Sindhu schools
6. Content enrichment workshops for teachers
7. Value education
8. Training in use of new textbooks
9. Training in multi grade and multi level teaching
10. Action research
11. Training of Anganwadi teachers in ECCE
12. Use of education technology in teaching
13. Experience sharing workshops for teachers
14. Training in preparation of question papers and evaluation
15. Work experience

16. Evaluation of education department programmes
17. Dramatisation in education
18. Training in life skills
19. Adolescent education awareness programmes

Evaluation Study of DIETs

The evaluation study of the functioning of DIETs, IASE and CTEs was carried out by the Post Graduate Education Department of the Karnatak University, Dharwar, during 2005 – 06. The objectives of the study were

1. To understand the extent to which DIETs and CTEs have been effective and met their objectives;
2. To understand and examine the nature of support extended by them to improve teachers' performance and thereby quality of school education;
3. To understand their existing strengths and weaknesses;
4. To suggest revised guidelines for their efficient functioning keeping in view the current revised realities in the field.

Summary of the Evaluation Study

The evaluation study of DIETs has pointed out that though they are pursuing their mission, they are lagging behind in the following areas:

1. Development of locally relevant TLMs
2. Evaluation of teachers, programmes and institutions
3. Field studies, action research and experimentation for tackling specific local level problems encountered in achieving the goals of UEE.

It is found that the DIETs are proactive in providing academic training, guidance and advice to the functionaries in the area of elementary education, but to a greater extent dysfunctional in the area of adult education and non-formal education. They are lagging behind in effectively establishing inter-dependent and mutually reinforcing vertical and horizontal working relationships with reputed professional organisations and institutions at various levels.

Some of the more important issues concerning DIETs are

1. Inadequate infrastructure—Some of the DIET buildings are incomplete even after 10 years.
2. Non availability of necessary support like adequate number of computers and total absence of modern training aids like LCD projectors. This is because the state government over the years has not provided any funds for improving infrastructure.
3. No DIET (except the one at Dharwar) has a full-time librarian and a separate clerk for the library.
4. A majority of the faculty (with secondary education qualifications like B Ed and M Ed) do not have relevant teaching/training experience to train primary school teachers.
5. While they play a pivotal role in training resource persons and elementary school teachers, the resource people are not equipped with necessary training skills.
6. At the district level, there are no academic structures for supervision of secondary schools. This may be done by redeploying the staff from other wings like CMDE/WE.
7. Every institution should have a documentation unit which must bring out periodical reports about the implementation of various programmes in the district, action research projects undertaken, etc. These reports must be consolidated at the state level and an annual report has to be produced by DSERT.

8. A review of the functions of the different wings has to be periodically undertaken and these wings have to be reorganised as per the requirements of the individual DIETs.
9. The Evaluation Study Report on DIETs has listed the following observations in respect of each of its wings.

Sl. No.	Branch of the DIET	Specific Functions	General Observations about the Functional Areas where the Branches are Weak/Not Performing
1	PSTE (Pre-Service Training and Education)	Organising pre-service training program	<ol style="list-style-type: none"> i. Maintenance of Science laboratory (Physical and Life Science separately), Psychology laboratory, Resource Room for education of disabled children, rooms for art education, facilities for physical education, etc. ii. Offering innovative pre-service education courses like D Ed, certificate courses, etc.
2	WE (Work Experience)	Providing work experience related inputs to all programmes and activities	<ol style="list-style-type: none"> i. Not identified and documented locally relevant WE areas, not developed sample curricular units, evaluation tools and techniques in such areas ii. WE has failed to maintain cleanliness and greenery on the campus iii. No workshops or farms for WE activities
3	DRU (District Resource Unit)	Nodal branch for planning and co-ordination of all activities including training programmes in the areas of AE and NFE	<ol style="list-style-type: none"> i. Maintained very poor contact and field interaction with the AE/NFE systems of the district ii. Poor in development of new locally relevant items including those in widely spoken dialects of the district iii. Action Research in the area of AE and NFE is almost nil
4.	IFIC (Innovation, Field Interaction and Coordination)	Planning and co-ordination of in-service programmes, field interaction and innovation activities	<ol style="list-style-type: none"> i. Poor in systematically identifying and prioritising training and education needs of the target groups and preparation of perspective plan for meeting such needs ii. Poor in extending academic interaction with the field by giving inspirational visits to schools/AE/NFE centres iii. Poor in coordinating with all the agencies of the district and preparing annual calendar of all programmes to be held in and outside the DIET iv. Not active in organising programmes through distance education mode and maintaining database of different courses offered by universities and other agencies for teachers who wish to continue their education v. Poor in developing a culture of documentation of research studies in the areas of concern of DIET and activation of a system of action researches, innovative projects and their dissemination through newsletter/journal
	CMDE (Curriculum, Material Development and Evaluation)	Curriculum, material development and evaluative exercises in the education system of the district	<ol style="list-style-type: none"> i. Poor in development of locally relevant curricular units ii. Poor in development of TLMs of the following types: <ol style="list-style-type: none"> a. Self-learning material b. Comic books for children c. Workbooks for children

Sl. No.	Branch of the DIET	Specific Functions	General Observations about the Functional Areas where the Branches are Weak/Not Performing
			<ul style="list-style-type: none"> d. Handbook for teachers e. Question banks f. Pocket dictionaries g. Resource units h. Model lesson plans, Unit test, etc.
	ET (Educational Technology)	Development of hardware, software and course-ware	<ul style="list-style-type: none"> iii. Poor in launching programmes like appraisal of teachers, programmes, curriculum, institutions, etc. i. Not developed a display area for good and low-cost AV aids ii. Poor in development of a bank of cassettes/CDs etc., on the themes of education which can be used by the target institutions of DIET iii. Not established good and sustainable working relationships with radio/TV/and other media/press channels for arranging the broadcast/telecast of educational programmes
	P&M (Planning and Management)	Planning and management related functions	<ul style="list-style-type: none"> i. Not developing or updating the database for the district ii. Not conducting studies with a view to giving policy advice to the authorities iii. Weak in institutional planning and evaluation iv. Not at all acting as the nodal branch for preparing quinquennial and annual institutional plans and annual self-evaluation reports for the DIET

Source: DIET Evaluation Study 2006

BRCs and CRCs

In Karnataka DIETs, BRCs and CRCs play a pivotal role in the implementation of in-service education. The main idea behind the formation of DIETs, BRCs and CRCs is to establish the practice of initial training as a starting point followed by an ongoing in-service education throughout the teacher's career.

These institutions are also required to set up good models for the induction of new teachers, investigate the structure and control of in-service education, develop a problem-solving and consultancy-based approach, evaluate and improve courses as a method of in-service education and fulfil the local academic requirements through in-service training.

Under DPEP, BRCs were set up for planning, management and supervision of in-service training of primary teachers and other functionaries at the grassroots level. CRCs were set up to provide direct academic resource support to primary teachers in a cluster of schools. The CRC provides information on the monitoring of implementation of departmental programmes also. BRCs and CRCs which came into existence in the DPEP districts were later started in the remaining districts of the state by SSA. This has helped in bringing in uniformity in training and monitoring throughout the state.

The BRC has helped in creating a group of resource persons and subject experts in each education block. With the active participation of this resource group, it organizes various types of training programmes for Head teachers, teachers, cluster coordinators, members of SDMCs and NGOs under the overall direction of the DIET. It also acts as an academic bridge between DIETs and teachers. Further, the SSA has increased the academic responsibility of these institutions keeping in view the orientation of in-service teachers in different curricular subjects—Kannada, English, Environmental Sciences, Mathematics and other non-scholastic subjects like Physical Education, Art, Music and Work Experience.

The BRCs have been further strengthened through additional infrastructure support by SSA and funds from the Twelfth Finance Commission and the state government. Satellite Receiving Stations (in KU band) have been set up in each of the BRCs so that online training and support can be provided directly from DSERT through teleconferencing programmes.

In 2005-06, another innovative practice was introduced by DSERT. The monthly experience sharing workshops were converted into regular one day thematic training programmes. The content was prepared, printed and distributed by DSERT and this helped the master resource persons at block and cluster levels to conduct one day orientation training of all elementary teachers every month. Thus, the target of conducting 20 day in-service training programmes for all elementary teachers could be reached.

Deficiencies in BRCs

BRC, now as a part of the SSA programme structure, has a functional reporting linked to DyPC and administrative reporting to BEO. This means there is no direct reporting linkage with the perceived academic lead institution—the DIET. BRC locations are based on revenue blocks instead of education blocks. In several cases, one BRC caters to more than 2 education blocks leading to heavy workload. They are not adequately equipped to handle large scale programmes and residential programmes.

All BRCs do not have the requisite support and infrastructure facilities like adequate rooms, computers, LCD projectors, library facilities to facilitate desired service delivery. They are also faced with a large number of vacancies at any point of time. Given the cascade model of training programmes (DSERT – DIET – BRC), there is a definite quantum of transmission loss, which results in dilution of the impact of the training programmes.

There is need for every BRC to create a teachers' forum which will meet at least once in a fortnight in a workshop wherein the teachers will share their experiences, good and innovative teaching practices, etc.

Training under IEDC

Integrated Education for Disabled Children (IEDC) has been given importance especially after the NPE 1986. The goal of UEE includes children with disabilities who constitute 2-3 % of the child population in the age group of 6-14 years. In 1989, 3 training institutions were recognised by the government to conduct one year Multi Category Teacher Training Course in IEDC. The multi category special teacher was supposed to cover a cluster of 6-10 primary schools within walking distance.

The DIETs also started a 42 day in-service training programme in IEDC for regular primary school teachers in collaboration with NGOs. Single category training programmes are also available in various national institutions. The Rehabilitation Council of India is now regulating the training of teachers under IEDC.

Guidelines for In-service Teacher Training

The objective of in-service teacher training is to empower the teachers to acquire the necessary skills to improve the curriculum transaction in the classrooms which, in turn should help to achieve universal attainment of essential learning levels by students. The MHRD had issued detailed guidelines for in-service teacher training which were reissued by DSERT with suitable modifications to suit local conditions.

According to these guidelines

- A teacher can be called 4-5 times a year for training both in curricular content and general training.
- The programmes have to be scheduled in such a way that every teacher will be trained over a period of 3 - 4 years in modules which cover all his training needs.
- Summer and October holidays should be fully utilised for the training programmes.
- Schedules have to be drawn up in advance both at the DIET and BRC levels after consultative meetings of all concerned. Teachers have to be given their training time table in advance.

- Care should be taken to see that teachers from single/ double teacher schools are called only during holidays.
- One teacher from every multi teacher school can be called for training during working days without disturbing the academic work of the school.
- The programmes are to take place in a participatory mode which includes group discussion, group work, presentation of good practices, demonstrations, etc.
- The programmes could also include field visits, case studies and use of ICT.
- Every Principal, DIET, should conduct monthly meetings of Dy P C/BRC/nodal officers to plan and coordinate all training activities in the districts.

Content of the Training Programmes

The content of the training programme has been divided into general areas and curricular areas. The content in general areas is

- Training in action research
- Analysis of textbooks
- Head teachers' training
- Multi grade, multi level training programme
- Foundation course for newly recruited teachers
- Dramatisation in education (Kannada / Urdu)
- Training in evaluation
- Value education
- Life skills training program
- Use of education technology in teaching
- Teacher training under radio and Edusat programmes
- SDMC training programmes
- Gender sensitisation programme
- Evaluation under LGS
- Computer education

The content in curricular areas is

- Chaitanya (1) (Kannada/ Tamil /Telugu—Competency and activity based modules for LPS)
- Chaitanya (2)—2 modules - K - SS & SC - Maths (Kannada, Marathi and Urdu modules - Competency and activity based modules for UPS)
- Chaitanya Tarani (Kannada/ Urdu—training in preparation of TLM)
- Content enrichment in curricular subjects
- Teaching Science—use of experiments
- Teaching of hard spots in curricular subjects
- Hard spots in Mathematics
- English language training programme
- Trimester/Semester system
- Physical Education and Yoga
- Evaluation in curricular subjects

Follow up of Training Programmes

The DSERT guidelines state

1. The nodal officers of the DIETs have to visit training programmes on a periodical basis and verify that training is taking place as per guidelines.

2. The nodal officers should periodically visit some schools in their blocks to verify whether teachers are actually following the instructions of the training programmes and whether the programmes have contributed to the improvement of classroom transaction.
3. The DIET principals in turn should review the reports of the nodal officers and send a consolidated report to DSERT and SSA every month.
4. Conduct of every training should include a pre test and a post test for the purpose of trainee evaluation. Oral and written feedback should also be obtained from the trainees.
5. The training schedules of the respective months should be available in DDPI/DIET/BEO / BRC offices so that all officers who are on official visits to the districts and blocks can also visit the venues of the training programmes.

Design of Training Packages (As in 2006)

1. The database maintained in BRCs should indicate the programmes allotted to a particular teacher and those planned for her/him during the year.
2. Experience-sharing workshops were considered to be part of the 20 day training package.
3. DIETs need to separately plan action research projects which are conducted by them directly. Training packages may be designed for talented teachers to be involved in these projects.
4. The training packages planned are as follows:
 - (i) Newly recruited teachers

(a) Foundation course	15 days
(b) Trimester system	2 days
(c) Multi grade	5 days
(d) Chaitanya I	7 days
 - (ii) Lower Primary teachers

(a) English language programme	10 days
(b) Trimester system	2 days
(c) TLM	3 days
(d) Content	5 days
 - (iii) Upper Primary teachers

(a) English language programme	10 days
(b) Chaitanya II	7 days
(c) TLM	3 days
 - (iv) Head teachers

(a) Head teachers, training	3 days
(b) SDP	5 days
(c) Trimester system	2 days
(d) Multi grade	5 days
(e) Content	5 days
 - (v) Physical Education teachers

(a) Physical Education	10 days
(b) Value Education	5 days
(c) Life Skills	5 days
 - (vi) For minority language teachers (Marathi/Urdu/Tamil/Telugu) the following training programme combinations are to be considered

(a) Chaitanya I or II	7 days	(a) English language program	10 days
(b) Content	5 days	(b) Trimester	2 days
(c) Trimester	2 days	(c) Multi grade	5 days
(d) Dramatisation in edn.	3 days	(d) TLM	3 days
(e) TLM	3 days		

In 2007, training for trimester was replaced by that for the semester system.

5. The DIETs/BRCs were given flexibility to the extent that they
 - Could design programmes based on local needs;
 - Keep objectives and over all guidelines in mind;
 - Limit expenditure to Rs 70 per head per day.
 6. The BRCs are required to send the physical and financial achievements along with UCs before 5th of every month to Principals of DIETs and Dy PCs of the respective districts.
 7. The Principals of DIETS are required to consolidate and send the physical and financial statements along with UCs to DSERT and a copy to the SSA state office before 10th of every month.
- These guidelines helped to streamline the in-service programmes in the state to a large extent.

Role of DSERT in Conduct of In-service Programmes

The DSERT undertakes

- (1) Identification of training needs of teachers;
- (2) Preparation of training modules;
- (3) Training of state and district level key resource persons;
- (4) Printing and distribution of teachers' handbooks;
- (5) Use of teleconferencing facilities at DSERT for training of district/block level resource groups and teachers;
- (6) Orientation training of teacher educators both at elementary and secondary levels.

Table 10.1

Number of Primary Teachers Trained (Year wise)

<i>Year</i>	<i>No. of Teachers Trained</i>
1991-92	6,600
1992-93	8,460
1993-94	12,153
1994-95	29,477
1995-96	26,961
1996-97	50,649
1997-98	45,899
1998-99	42,832
1999-00	35,982
2000-01	41,961
2001-02	42,927
2002-03	1,03,175
2003-04	2,39,978
2004-05	2,39,978*
2005-06	2,39,978**
2006-07	2,07,470#

Source: DSERT Reports

Note 1: The number of teachers trained upto 2001-02, shows the number trained by DIETs and does not include those trained by DPEP.

Note 2: The number of teachers trained by DIETS 2002-03 onwards shows a significant increase as they conducted training for SSA also.

*Teachers trained for 11.36 days during the year.

** Teachers trained for 17.89 days during the year.

Teachers trained for 12.16 days during the year.

In-service Education (Secondary Sector)

Formerly, the departments of extension services of teachers' colleges were conducting in-service training programmes for secondary teachers. Some religious institutions having a chain of their own educational institutions were also organising similar programmes for teachers working in their institutions and sometimes, for other teachers as well. However, these served a limited purpose.

The NPE 1986, which gave a great push to institutionalise in-service programs, brought about many structured changes in their conduct. Now, in-service education for secondary teachers and teacher educators is being conducted through the CTEs and IASEs.

Establishment of CTEs and IASEs

To improve the quality of secondary teacher education, in 1993, six Government Colleges of Education in the state were upgraded to CTEs so that they could provide both pre-service and in-service education. They were the Government Colleges of Education located at Mysore, Mangalore, Gulbarga, Belgaum, Chitradurga and Jamakhandi.

Four private teachers' colleges (MES Teachers' College and Vijaya Teachers' College, Bangalore, Kotturawmy Teachers' College, Bellary and MLMN Teachers' College, Chikkamagalore) were also upgraded as CTEs. Hence, a total of 10 CTEs were established in 1993 in Karnataka.

In the private teacher education sector, R V Teachers' College, Bangalore was upgraded to the status of an Institute for Advanced Studies in Education (IASE) with a mandate to provide adequate and qualitative resource support to teacher educators and train them to take up education research. In 2006, the CTE at Gulbarga was upgraded as an IASE.

Objectives of CTEs/IASEs

The CTEs and IASEs were established primarily as pace-setting and innovative training institutions in the secondary teacher education sector. Their major task is to offer superior quality in-service and pre-service programs for secondary school teachers and programmes for personnel of AE and NFE.

They are expected to perform the following broad functions:

1. Imparting quality pre-service and in-service education to secondary school teachers;
2. Preparing personnel for the faculties of elementary teacher education institutions and providing them with continuing education;
3. Providing general resource support to secondary schools and elementary teacher education institutions
4. Taking up research, innovation and extension work in the field of secondary education and elementary teacher education.

RV Institute of Advanced Studies in Education, Bangalore conducts training programmes for teacher educators and faculty of other TTIs. Teacher educators as well as staff of all training institutions (including those of DIETs and CTEs) are also being trained in concepts like lab area, micro teaching, action research, education technology, quality management, evaluation, etc.

Table 10.2
Secondary School Teachers Trained (Year-wise)

Year	No. of Teachers Trained
1997-98	5712
1998-99	3777
1999-00	9978
2000-01	7254
2001-02	13965
2002-03	20723
2003-04	5498
2004-05	7224
2005-06	3536
2006-07	4220

Source: DSERT Reports

Deficiencies in In-service Teacher Training Programmes

The in-service programmes suffer from the following deficiencies:

1. The monitoring agencies do not take up impact assessment of the teacher training programmes.
2. No computerised database is maintained by the training agencies as a result of which some teachers may be called for several programmes in a year and several teachers may not be called for any training programme at all.
3. The programmes are not need based. They are designed either at the state or the district level without reference to ground realities.
4. The teachers do not have any choice in selecting the programme according to their needs.
5. The cascade mode of training followed in most of the training programmes results in transmission loss and, ultimately, the teachers do not get the same quality of training programme envisaged at the time of planning of the programme.
6. There is no follow up, monitoring and evaluation of the in-service training programmes.
7. The linkage between DSERT-DIET, DIET-BRC, BRC-CRC is, at best, tentative and not very effective.
8. The officers posted to the DSERT, DIETs, CTEs, BRCs are all drawn from administrative line as there is no separate academic cadre for these institutions. Hence, the work turned out by these institutions is not of high academic quality. These institutions have also become rehabilitation centres for suspended officers and relatives of people in power.
9. There is no educational research carried out in these institutions as the personnel working in them lack research experience.
10. The faculties who are posted to the DIETs have no experience of teaching in primary schools. Not being professionally equipped to give adequate guidance and support to the teachers during their visit to primary schools, they confine themselves to arranging training programs and such other activities. This is one of the reasons for poor quality of training modules, curriculum design and evaluation packages.
11. The in-service training has become largely ritualistic due to the insistence of a mandatory 20 days of training under SSA for every teacher every year.
12. In all the in-service teacher training programs, invariably, teachers of unaided institutions (who form a large percentage) are left out, leading to gaps in quality and teaching standards in unaided institutions.

13. The institutional linkage between the PG education departments of the universities and the field department with respect to in-service education is totally non-existent except for some rare individual initiatives.

Evaluation Study of CTEs/IASEs

1. The government is yet to make appointments to the DIETs/CTEs as per the new cadre and recruitment rules.
2. The CTEs and IASEs are required to make conscious and vigorous efforts to break the isolation between teacher education institutions and school systems.
3. These institutions are yet to make strong efforts to establish mutually beneficial academic and research collaborative linkages with various external organisations as the existing linkages are found to be inadequate and weak.
4. Few CTEs and the IASE in Karnataka have undergone the NAAC accreditation and secured grades.
5. Though the CTEs/IASEs have made a positive impact on the quality of functioning of schools, a lot of scope still remains to produce constructive and definitive results.
6. The performance of the CTEs and IASE has not been impressive. The specific function-wise observations are given below.

Sl. No.	Specific Functions of CTE/IASE	General Observations about the Functional Areas
1	Organising pre-service training programme	The CTEs in Karnataka are running the BEd degree course of a recognised university. It is noteworthy that the Vijaya CTE has collaboration with many agencies to enrich the pre-service education course. Also, R V IASE is offering the BEd course of the Bangalore University, Bangalore.
2	Organisation of (3 to 4 weeks duration) in-service courses for secondary teachers	Five (50%) of the CTEs located at Mangalore, Mysore, Gulbarga, Chitradurga and Jamakhandi claim that they have organised subject oriented in-service courses. It may be noted that only government CTEs are active in this area. The duration of the course is not disclosed by the CTEs. The RV IASE claims that it has organised this activity, but has not disclosed the details.
3	Organisation of shorter, theme specific (3 to 10 days duration) in-service teacher education programmes	Two (20%) of the CTEs located at Chitradurga and Jamakhandi have conducted several (69 + 19 = 88) short-term and theme specific in-service teacher education programmes. The remaining 8 (80%) have claimed that they too are active in this area. R V IASE claim that it has organised these activities, but not disclosed details.
4	Providing of extension and resource support services to the secondary schools	It seems there is no clarity about the roles and responsibilities of the CTE scheme among the faculty of CTEs. It is observed that the CTEs have failed to a large extent to organise activities of the following type: (i) Special lecture series for secondary schools (ii) Development of resource material useful to the schools, like books, booklets, handbooks, dictionaries, etc. (iii) Organisation of seminars, symposia, conference, etc. (iv) Providing information about cutting edge knowledge, etc.
5	Providing of extension and resource support services to the school complexes	CCTEs are not at all active in providing extension and resource support services to the school complexes. There is a need for linking CTEs and school complexes effectively. R V IASE claims that it is active, but has not disclosed its activities.

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| <p>6 Conduct of experimentation and innovation in school education – environmental education</p> <p>7 Conduct of experimentation and innovation in school education – population education</p> <p>8 Conduct of experimentation and innovation in school education— computer literacy</p> <p>9 The expected and actual activities of the (IASE) R V College of Education, Bangalore</p> | <p>Two CTEs, namely, Vijaya CTE, Bangalore, and MES CTE, Bangalore, are conducting some activities in the area of environment education while others are passive in this area. The IASE claims that it is involved in these activities but has not disclosed any information. The CTEs in Karnataka (excepting CTE Jamkhandi) have not done any work in the area of population education.</p> <p>40% of the CTEs, namely, Vijay CTE, MES CTE, CTE Mangalore and CTE Gulbarga have done some work in collaboration with Intel and Microsoft in the area of computer literacy. Other CTEs and the IASEs have not had any involvement.</p> <p>The RV IASE claims that it is working in the functional areas assigned to it but details are not revealed. The MED (Evening) course which was running in the RV IASE has been stopped. No innovative programmes such as organising pilot programmes are designed. It is not active in the area of conducting fundamental research. It is very clear from the above activities of the RV IASE that it is yet to work hard to fulfil its mandate.</p> |
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Professional Associations of Teachers

The teachers' associations which are supposed to be professional bodies have a major role in improvement of quality of classroom teaching and educational research. The Block Primary Teachers' Association is headed by the BEO and the District Head Masters' Association is headed by the DDPI. These associations meet once a month and are entitled to utilise half a day for academic improvement programmes. Usually an outside expert is called to deliver a lecture or give a demonstration lesson followed by discussion.

However, a number of primary and secondary teachers associations have confined themselves to putting forward teachers' demands for various benefits related to service matters before the state government. Of course, some associations are doing excellent work for professional development of teachers by bringing out teachers' handbooks, question banks, model question papers, material for bridge courses and other resource material for benefit of teachers. They conduct preparatory examinations for X standard students. They have also formed subject teachers' clubs and periodically take up teacher training programmes. Deputy Channabasappa Pratisthan, Dharwar has been doing excellent work in in-service education for the past several decades.

Regional Institute of English, South India (RIESI)

The Regional Institute of English South India, Bangalore, is actively involved in training English language teachers in the state. In collaboration with the state governments it has established English Language Teaching Centres (ELTCs) in each member state. In Karnataka these centres were established at Doddaballapur, Mysore, Dharwar and Gulbarga and their academic work was monitored by RIESI. But, with the introduction of the NPE, new teacher training structures (DIETs/CTEs) were set up for the benefit of in-service teachers and the District ELTCs were brought under their umbrella, depending upon their geographical location. In terms of the functions, RIESI has been regularly conducting in-service teacher training programmes, both for elementary and secondary teacher educators. Several programs for other functionaries of the education department are conducted on an ad hoc basis.

The RIESI in collaboration with the DSERT took up a project during 2003–04 to train at least one teacher from every primary school in Karnataka in the teaching of English. It prepared a 10 day training module and trained the Master resource persons and provided the resource kit to all the classroom teachers who were trained in the programme. With the help of these Master resource persons, DIETs took up the training programme for primary teachers. This project was a success.

The Institute scrutinised all the English language textbooks of Karnataka during 2003 – 04. It also participated in the Edusat project by preparing English video lessons for the Edusat broadcasts. In 2006 – 07, it undertook preparation of textbooks and teacher handbooks for English teaching for classes I to IV when the state government took a policy decision to introduce English as a language from I Standard.

Institute of Social and Economic Change

The institute has a separate unit for research and PhD level work in education. It has also been training officers of the education department in educational planning and administration. It collaborates with the government in evaluation of different programmes.

Azim Premji Foundation (APF)

The APF is training senior officers of the department regularly in educational planning, management, best corporate practices, etc. It also collaborated with the GOK in setting up the Policy Planning Unit.

R V Teachers' College and R V Consortium

The extension services unit of R V Teachers' College continued conducting inservice programmes out of its own resources even after grants were stopped by the government. The unit also conducts in-service programmes funded by the Dr A C Devegowda Trust. The R V Consortium collaborated with DSERT in the conduct of several programs. Reforms in X standard public examination question paper were taken up by the Consortium. The Teacher Education Perspective Plan for Karnataka was also developed in 2005 in collaboration with DSERT, under the guidance of Dr (Late) T K Jayalakshmi.

The Microsoft Computer Education Academies

In 2005, the Microsoft Corporation set up Computer Academies at Bangalore, Dharwar and Gulbarga in collaboration with DSERT to train teachers in computer skills for classroom teaching. The training enables classroom teachers to prepare their lesson plans and use resource material from the internet to improve their classroom teaching. Each centre trains 80 teachers per batch for a period of 2 weeks. Under the agreement, after 5 years, the infrastructure and equipment installed by Microsoft becomes the property of the department.

Intel's Teach to the Future Training Program

Intel's Teach to the Future is a worldwide education programme created for and by teachers, to help them effectively integrate technology into the classroom. Teachers learn from their colleagues how, when, and where to incorporate technology tools and resources in their lesson plans.

The program started in Karnataka on 25 June 2001. The programme aimed at training one teacher from each of the 1000 Mahiti Sindhu schools as Master Trainers. The training programme was for a period of 13 days. These master trainers trained the rest of the teachers in their respective schools.

Intel has developed the following schools as model schools in Bangalore:

1. Government High School, Jalahalli
2. Government High School, Peenya
3. Government High School, Police Colony

Intel has provided a set of 10 educational CDs and internet support to them.

In order to promote technology-aided learning, Intel supported DSERT's endeavour to honour teachers and schools by conducting a state-wide contest in 2003-04 for the best integration of technology in the teaching-learning process. The contest and award ceremony is now being conducted annually by Intel.

It has also promoted 224 Science Centres located in government secondary schools across the state as pilot Technology Assisted Learning (TAL) schools. These schools are empowered by Intel to promote innovative methods and facilitate technology integration in the teaching-learning process.

Chapter 11

Pre University and Vocational Education

Pre University Education

Unlike in most states, the +2 stage (also known as higher secondary stage) in Karnataka, consisting of XI and XII standards, has been treated as an independent one (and not as a part of the secondary stage) due to historical reasons. Conceptually, it is considered as a bridge between secondary and higher education (leading to professional courses, vocational education or general education). At the national level, the +2 stage is considered a part of the secondary stage itself.

Mission Statement

The present mission statement of the department is: *"Within the context of increasing demand for higher education, the mission of the Pre university Department is to provide easily accessible, high quality and relevant education suited to the diversified needs of adolescents in the state".*

This means that the responsibility of the Pre university department is limited to providing access and quality education. In the context of rising expectations of the people and the proposed universalisation of secondary education, the department needs to take up responsibility not only for access, but also for enrolment, reduction of wastage and stagnation along with participation and quality of education at the Pre university stage.

At present, only 36 children out of a hundred enrolled in I standard reach the P U stage. Of these, only 18 are likely to pass out of this stage as the pass percentage has been hovering around 50 % every year. Therefore, the state needs to develop appropriate strategies to cater both to an expanded, diversified student demand and provide knowledge, skills and attitudes that are needed by the changing economy and the diversified requirements of the labour market. The word "diversified" here encompasses not merely the conventional arts, science and commerce streams but a range of courses which will enable students to acquire knowledge and skills to access a range of jobs. Thus, vocational courses take on a lot of significance here as they would answer the varied goals of students.

Hence, the Perspective Plan Committee proposed a modification of the vision statement within the overall vision statement in the secondary education sector, *"The state ensures that at least 80% of children (in the age group of 16 to 18 years) completing 10 years of schooling also complete by 2015, high quality and relevant Pre university education suited to the diversified needs of adolescents in the state."*

The Committee stated that our vision for 2015 must be that all those who aspire for Pre university education must have "access to pre university courses of their choice". But at the same time, caution should be exercised in introducing new combinations and courses. This must be based on a scientific survey considering opportunities for higher education or employment. Otherwise, students would find themselves at sea on completion of the courses.

It is encouraging to note that the number of students joining the Pre university courses in the state has been increasing every year. While it was 2.91 lakhs in 2001, it has increased to 4.28 lakhs in 2006 and it is projected to go up to 8 lakhs by 2012. But the worrying factor is that the enrolment of girls is lower than that of boys by a sizeable 7%, which needs to be remedied through offer of better incentives.

It is found that about 85% of those who complete PUC examination enter the higher education stream. Considering that only 9% of the youth population in the age group of 17–24 gets into higher education and technical education institutions, the wastage and stagnation at the +2 stage points out to the enormous inefficiency in this sector. There is also a notable imbalance in the number of students passing out of different streams.

Even though the expansion has been large in terms of the number of institutions, there is need for full-fledged, adequately equipped and staffed Pre university institutions in every education block, especially in rural areas.

Historical Background

A one-year Pre university course was introduced in the state in 1956–57 with the abolition of the Intermediate course. As per the recommendation of the Education Integration Advisory Committee, some selected high schools were converted into higher secondary schools by adding XI standard. The administrative control of XI standard rested with the Department of Public Instruction. The Intermediate colleges functioning independently were attached to the degree colleges under the control of the universities. The XI standard (PUC) public examination was being conducted by the universities in their respective areas.

In 1970, the government constituted a Board of Pre university Education by an executive order (ED 2. UDC 70 dated 3/12/1970). The Vice-Chancellor of one of the universities headed the Board by turns. The post of the Director of Pre university Education was created in the same order and he was made the Secretary of the Pre university Board. The Pre university Education Board conducted its first examination in April 1972 and 59,143 students took the first examination. The percentage of passes was 29.70%.

Later, as per the report of the Education Commission (1964–66), the 10 + 2 + 3 pattern of education was accepted by the state and the Pre university course was converted into a two-year course from the academic year 1971–72. This course provided for study of 2 languages and 4 electives that were to be selected from a wide range of subjects.

Thus, there were now 3 types of institutions providing Pre university education in the state.

1. Higher Secondary Schools with XI and XII standards
2. Independent Junior Colleges with the 2 year Pre university course
3. First Grade Colleges offering the 2 year Pre university course

To manage this complex system, the course was placed under the control of the newly created office of the Director of Pre University Education. Later, the +2 stage was de-linked from the collegiate education sector and placed under the total administrative and academic control of the Director of Pre university Education.

Present Status of Pre University Education

The Department of Pre University Education looks after both the academic supervision and administration of all government, aided and unaided Pre university colleges, along with the conduct of the public examination at the end of the 2 year course.

Access

The following table gives a bird's-eye view of the current status of Pre university education in the state.

Table 11.1

Status of Pre University Education in Karnataka

Particulars	Govt.	Aided	Unaided	Bifurcated	Corporation	Total
No. of Institutions	856	531	1,352	165	13	2,917
Teachers	7,147	6,587	5,295	—	—	19,029
No. of Students*	2.90	2.24	2.15	1.36	0.05	8.70

Source: Annual Report 2006 – 07

* Figures in lakhs and include I and II PUC

The number of Pre university colleges has increased significantly over the years, from 651 colleges in 1981 to 2917 in 2006. Private colleges are the dominant players in this sector. Government institutions constitute only 29%, whereas aided private institutions constitute 18% and unaided private institutions constitute 46% of the total number of Pre university colleges in the state. More than 50% of the students study in private institutions. In fact, students from rural areas prefer to travel longer distances to study in private colleges due to poor infrastructure and low quality of education in government colleges. This could be the reason behind the closure of a good number of government colleges and sections.

The Perspective Plan Committee has suggested that the department should take up an extensive college mapping exercise in order to identify unserved areas in the state and establish new Pre university colleges based on present and future requirements. This exercise would help to identify minimum requirements for every college apart from ascertaining access to Pre university education. In rural areas, there should be one PU college within a radius of 10 km of any village/habitation which can be relaxed in case of educationally backward districts and blocks as well as bigger towns/cities.

Ideally, there should be a norm that there should be one PU college for every 2 or 3 secondary schools. At present there are only 2527 PU colleges for over 10,500 secondary schools in the state (1: 4.15).

Infrastructure for Starting New Colleges

There are two types of colleges. One, having Arts/Commerce combination only, with a vocational course and the second having Arts/Commerce/Science combination with a vocational course.

The department has prescribed the standard room size to be 22'x30'. The unit cost for one room is Rs 4.8 lakhs as per RIDF rates (2006). For an Arts/Commerce college the department has prescribed a unit cost of Rs 34.37 lakhs, and for an Arts/Commerce and Science college, it is Rs 41.88 lakhs.

The Perspective Plan Committee has suggested that the department should prescribe different infrastructure norms for colleges having student strength less than 250, 250–500, 500–1000, and 1000 and above. Besides, the committee has suggested that every college should also provide for infrastructure facilities for at least one vocational course.

The most important norm is the teacher student ratio which is fixed at 1:60. Unfortunately, no college has adhered to this norm as the strength of students in a bigger college is anywhere from 100 to 120.

Norms for a Pre university College

The norms suggested by the Perspective Plan Committee for a Pre university college are:

1. 4 acres of land
2. Principal's room, staff room, classrooms (one classroom for every 60 students), laboratory, library, computer centre, sports room, one work shed, rest room for girls, gym, auditorium, facilities for both outdoor and indoor games

3. Drinking water facility
4. Separate toilets for staff, boys and girls
5. One first aid room
6. Rs 20,000 contingency per year if the college has less than 5 sections and Rs 30,000 per year if it has more than 5 sections
7. One lecturer with a Masters' degree (and B Ed degree) to teach each subject, one additional lecturer in a particular subject may be provided for every additional sections beyond 5 sections
8. Every college should have a computer teacher and a physical education teacher
9. Work sheds for vocational education and production cum training centres
10. Besides the prescribed teaching staff, every PU college has to be compulsorily provided with 1 librarian cum clerk, one FDA, one lab attender, and one group D employee
11. Security and maintenance of cleanliness in every PU college may be outsourced
12. The department should prescribe lists of essential laboratory material that the colleges should have for each science subject
13. The department should prescribe lists of library books in each subject as well as the minimum number of books (based on student book ratio) that each college should possess.

The government needs to extend the Mahiti Sindhu programme or initiate a separate ICT programme in all government junior colleges also. It can be started in composite junior colleges as the programme is already in force in the high school sections. ICT facilities and training should be made compulsory in all junior colleges including private colleges. There should be 10 computers for every 250 students.

Enrolment

The number of students joining the Pre university courses has increased significantly over the years. 1.73 lakhs got enrolled in I PUC in 1981 and this increased to 4.28 lakhs in 2006. However, one important point to be noted is that there is a significant drop in students' enrolment between I PUC and II PUC in all these years resulting in substantial wastage of human resources as can be seen in Table 11.2.

Table 11.2

Wastage at Pre University Stage Enrolment (In lakhs)

Year	I PUC	II PUC	Wastage
1981	1.73	1.11	0.62
1998	2.37	2.07	0.30
2002	3.26	2.81	0.45
2003	3.26	2.91	0.35
2004	3.77	3.25	0.52
2005	4.12	3.40	0.72
2006	4.28	3.61	0.67

Source: Department of PU Education

More number of students prefer Arts stream to Science and Commerce put together. It is found that, on an average, 54% of students take up Arts combinations whereas only 27% take up Science and 18% take up Commerce subjects. The number of students taking the Science stream has dwindled over the years and in 2006–07, it stood at a mere 27% of the total enrolment. The following table gives the enrolment of (boys and girls) students in II PUC, stream-wise in 2006–07.

Table 11.3
Stream-wise Enrolment in PU Colleges

<i>Streams</i>	<i>Boys</i>	<i>Girls</i>	<i>Total</i>
Arts	99,464	96,566	1,96,030
Science	55,177	43,021	98,198
Commerce	37,204	30,375	67,579
Total	1,91,845	1,69,962	3,61,807

Source: Department of P U Education

The following table shows the growth in enrolment in I PUC over the years and the gender differential and gender disparity in percentage.

Table 11.4
Gender Disparity in Enrolment in PUC over the Years

<i>Year</i>	<i>Boys</i>	<i>Girls</i>	<i>Total</i>	<i>Gender Differential</i>	<i>Gender disparity Percentage</i>
2001-02	1.84	1.42	3.26	0.42	12.88
2002-03	1.81	1.45	3.26	0.36	11.04
2003-04	2.06	1.71	3.77	0.35	9.28
2004-05	2.25	1.87	4.12	0.38	9.22
2005-06	2.29	1.98	4.27	0.31	7.25

Source: Department of PU Education

The enrolment of girls in PUC over the years has shown a significant increase but the gender disparity persists and is still a sizeable 7%.

Medium of Instruction

At the secondary education level, students have a choice of seven media for study—English, Kannada, Hindi, Tamil, Telugu, Marathi and Urdu. But at the Pre university level, only two media are offered—English and Kannada. Science combinations are taught in English whereas for Arts combinations, 80% of colleges offer education in Kannada medium. As far as Commerce is concerned, 75% of colleges offer education in Kannada medium, with Accountancy being taught in English medium but students are allowed to write in Kannada medium. It becomes difficult for students to shift from the medium opted at secondary school level to either Kannada or English (in PUC) in which he may not be proficient. This is one of the reasons for low results in the Pre university examination.

The Sub sector Study Report has analysed this problem in the tables below.

Table 11.5

Percentage of Students Opting for a Different Medium at PU level

(Sample Study)

Mother Tongue	Percentage of Students	
	Poor Colleges	Good Colleges
Kannada	76.00	81.00
Other than Kannada	24.00	19.00

Source: Sub sector Study Report

Table 11.6

Response from Students Regarding Change in Medium

(Sample Study)

Figures in Percentages

	Poor Colleges		Good Colleges	
	Rural	Urban	Rural	Urban
Are you finding it difficult to adjust because of change in medium of instruction—Yes	48	15	10	5

Source: Sub sector Study Report 2001

Poor Colleges: Securing less than 30% results in II PUC Examination

Good Colleges: Securing more than 70% results in II PUC Examination

The above table shows that 48% of students in rural areas and 15% in urban areas have difficulty in adjusting to their studies because of change in medium in case of poor colleges. It is 15 and 5 in case of good colleges. The department has not been successful in tackling this problem to facilitate a smooth changeover in media.

Findings of Sub sector Study Report (2001)

The Sub sector Study Report on Secondary and Higher Secondary Education gives an indication of the status of Pre university education in the state.

1. There is not much difference between poor and good colleges in respect to location of institutions.
2. However, good colleges command relatively better resources and facilities than the poor ones – number of rooms, library, laboratory, furniture, sanitary facilities, drinking water, sports facilities, exclusive facilities for girls, etc.
3. Availability and use of multimedia facilities is better in good colleges.
4. Management, resource mobilisation and utilisation is better in good colleges.

5. A large proportion of lecturers working in good colleges have more than 8 years experience as against a lower proportion in poor colleges.
6. Educational assistance to students studying in good colleges is better than that obtained by their counterparts in poor colleges.
7. A higher proportion of students in poor colleges take up parttime jobs as against a lower proportion from good colleges.

Admission of Students

The Sub sector Study Report has stated that students in all "poor colleges" are admitted on a first-come first-served basis. However in "good colleges", marks obtained by the candidate in the X standard public examination is taken into consideration. Government and private aided colleges follow the roster system. Some of the prestigious urban colleges (both aided and unaided) charge donations. The department has been able to regulate admissions to a certain extent but has failed to control the donation menace. It is also found that several students often select subjects and combinations without proper guidance and later find it difficult to pursue higher education or take up suitable jobs.

Orientation to Students and Parents

A common function to welcome the students and parents before the commencement of the academic year of the college is held. Here, fresh students are introduced to activities, rules and regulations, disciplinary measures of the college, role of parents in the educational development of the children. The Sub sector Study Report states that a majority of good colleges have such programs as against very few poor colleges.

Table 11.7
Activities of PU Colleges

(Sample Study)

Figures in percentages

Activities	Poor Colleges	Good Colleges
Welcoming Students	10.00	55.00
College Calendars	25.00	56.00
Holding Assembly	45.00	67.00

Source: Sub sector Study Report

Academic Work in Colleges

Each college achieves its individual identity and standing in the community by the manner in which it conducts its activities and programmes. The mere completion of syllabus is not sufficient to achieve good results. It has to do much more—revision, repeated evaluation, identification of weak students and remedial teaching. But there are several colleges in which even the relevant syllabus is not completed. The sample study by the Sub sector Study team has highlighted the issue. As per the table given below, a higher proportion of lecturers working in good colleges (85%) are able to complete portions on time as against a lower proportion of lecturers from poor colleges.

Table 11.8
Proportion of Lecturers not Completing Portions
(Sample Study)

<i>Aspects of Teaching</i>	<i>Teachers in</i>	
	<i>Poor Colleges</i>	<i>Good Colleges</i>
Completing portions in time	72	85
Not completing portions in time	28	15

Source: Sub sector Study Report

In-service training

The Kothari Commission, in its report, recommended that every teacher is to be compulsorily exposed to in-service orientation/ refresher courses once in every five years of his service. Since the Pre university curriculum was revised, the department organised orientation training programs regarding the same at the state and district levels and was able to train 7000 lecturers in 2005-06 and 9000 lecturers in 2006-07. The training programs are also being conducted through the Edusat facility. Even though lecturers of private unaided colleges form 40% of the total teacher strength at the Pre university level, they are left out of the training programs.

Due to budget constraints, the training programs are not planned and implemented in an organized manner. The quality of transaction of the teaching-learning process needs improvement through well-designed training programmes. Special pedagogic courses have to be designed for untrained teaching staff. In-service training should be systematic and cover all teachers in a 3 year cycle. Since the + 2 stage has been delinked from the collegiate sector and is now considered part of secondary education, it is necessary that an appropriate pedagogy-based training programme for all teachers at the Pre university stage is worked out.

Evaluation

Evaluation is an integral part of the teaching-learning process. In colleges, it is done through regular home assignments, tests, and half yearly examinations. The I year PUC examination is conducted as a district level examination wherein the question papers are external but evaluation is internal. The Board conducts the II Year examination as a public examination.

PUC Examination Results

Till 1979, the Pre university Board was conducting state-wide public examinations at the end of both I and II years of the Pre university course. From 1980, the public examination is being held only at the end of the II year. The II year PUC examination results over the years have been below 50%, which means considerable wastage and stagnation is taking place at this stage. The following table gives the increase in number of students appearing for the II P U examination and the results in some selected years for reference.

Table 11.9
PUC Public Examination Results in Selected Years

*Figures in lakhs

Year	Number Appeared*	Number Passed*	Percentage
1976	0.76	0.36	47.5
1979	0.90	0.44	49.2
1980	1.00	0.49	48.7
1991	2.89	1.01	35.2
1995	3.22	1.40	43.6
1998	2.88	1.01	35.0
2000	2.78	1.29	46.5
2003	4.18	1.88	45.2
2005	4.72	2.49	52.8

Source: Annual Reports

The results of II PUC public examination held in March 2006 in various streams is given below. Girls have consistently performed better than boys in all the streams. Performance of Science students is a cause for concern as it is less than 50% pass every year.

Table 11.10

Stream-wise Performance of Students in PUC Examination, March 2006

Figures in Percentages

Stream	Boys	Girls	Total
Arts	47.06	58.91	52.99
Science	46.39	52.19	49.29
Commerce	56.35	72.91	64.63
Total	49.93	61.33	55.63

Source: Annual Report 2006-07

Issues in Pre University Education

The II PUC examination plays a major role in determining the future of candidates especially from the Science stream. 50% of marks scored by them in Physics, Chemistry and Mathematics along with 50% marks scored by them in the CET one considered for admission to Engineering courses. There is heavy demand for important subjects like Information Technology, Computer Science, Electronics and Telecommunication in reputed colleges. This causes a lot of stress on students taking up the PUC public examination.

The Heavy Burden on Students at the End of the Pre university Course

Pre university (especially Science) students take on a heavy mental and emotional burden of facing several public examinations at the end of the 2 year P U course—The PU public examination, entrance tests to various national level institutions like the National Law School, I I Ts, entrance examinations to technical courses in deemed universities and colleges, besides CET, KOMED and of course, SAT.

While the CET cell has not taken into consideration the hardship the students face in answering 4 major subjects (Physics, Chemistry, Mathematics and Biology) in just one day, the admission process to medical and dental seats ignores marks scored by the student in the PUC examination. This has adversely affected the prospects of a vast majority of rural students in admission to medical and dental courses.

The Focus Group on Examination Reforms on structural and procedural change suggested reducing the problems related to stress, anxiety and suicide among students. This is also the theme enunciated in the policy document "Learning without Burden". In fact, the Focus Group suggested that even the X standard board examination be made optional.

The Group further recommended that institutions in each field coordinate with each other and design one entrance test applicable across the nation. The Perspective Plan Committee suggested that instead of the CET system of admissions, PU marks may be considered for admission to professional courses. Alternatively the state may ensure only one entrance examination for all professional courses.

Integration of Pre university Classes with Secondary Schools

The Eduvision document suggested integrating the secondary classes with the higher secondary classes citing the following advantages:

1. Lengthening of elementary cycle and delinking of higher secondary classes from degree colleges.
2. Integration will create a critical mass of teachers in each school.
3. It will lower the cost of operating schools.
4. It will help merge the two examining bodies dealing with X and XII standard examinations.
5. Adopting an integrated framework of 12 years of schooling will bring Karnataka at par with national and international norms allowing for easy mobility of graduates.

This has not been possible due to several practical issues involved. Whereas there are only 856 government pre university colleges (constituting 30%) there are 531 private aided and 1352 unaided colleges (constituting 70%). (Refer Table 11.1). Some of these colleges do not have secondary school sections.

The creation of separate cadre of lecturers and principals at the Pre university level, and the concept that the Pre university is a separate stage in the state's education system has prevented their merger. Even the concept of school complex has not taken off at this stage. The Perspective Plan Committee interacted with a number of lecturers from the Pre university department and teachers from secondary schools. None of them were in favour of the merger. They cited a number of practical problems which have remained unsolved over the years.

The most important reason appears to be that the principals and lecturers who are not BEd trained are not in a position to appreciate the teaching methodology followed in schools (Possibility of psychological barriers). This problem can be overcome by arranging for appropriately designed short-term courses in educational technology and pedagogy by research institutions and universities. The Perspective Plan Committee felt that in line with reforms in other sectors, the Pre university sector also needs reforms as it has not changed structurally since inception.

Shift System

A major irritant in most of the composite colleges is the running of the college / high school in the shift system. Junior colleges work for only 4 hours between 8 a. m. and 12 noon. This hampers the academic

work of the college and is also a major factor in low quality of classroom transaction and poor results. The staff of these colleges have got used to low work and high wages in the system.

Wastage and Stagnation at the Pre university Stage

As already discussed in the beginning of this chapter, this sector faces serious issues of wastage and stagnation of human resources. The pass percentage in the PU examination has not crossed 50%. The department has not been able to tackle this problem and as a result the +2 stage has become a stumbling block for a majority of students every year.

Important Recommendations of the Perspective Plan Committee

Some of the recommendations of the Perspective Plan Committee have already been discussed in the preceding paragraphs. Since there have been practically no reforms in the Pre university sector for the past several decades, it is high time the department addresses the issue. Other important recommendations of the Committee are given below.

Institutional Planning

Every Junior College should develop a Comprehensive Development Plan (CDP) with a 5 year horizon and the government should provide the requisite funds in phases for the college to develop as a model institution. The performance of the college has to be evaluated in terms of the goals and objectives set forth in the CDP.

There is need for a perspective job chart for each staff member with a performance mandate. There is need for every lecturer to prepare an annual program of work which will help the lecturer to plan the amount of content and sub units to be taught in a month, conduct of monthly tests, home assignments and follow-up work.

The Head of the Institution

Every college needs a motivated and qualified head for its proper and efficient functioning. Institutional planning, organisational management of instructional processes, monitoring and evaluation of curricular and co curricular activities largely depend on the dynamic role he/she plays in the institution.

Direct recruitment of principals in government PU colleges has not taken place for nearly 30 years. The government should consider recruiting able principals or there should be a system of screening, when lecturers (based on seniority) are promoted as principals. Every principal on entry should undergo a leadership training programme along with academic/ administrative training which has to be arranged with the Administrative Training Institute, Mysore.

Academic Reforms (Introduction of Semester Scheme)

There is need for introducing semester scheme in the P U course. The I year P U course is a district level examination which the students and teachers do not take too seriously. If semester system is introduced it will tone up the system, bring seriousness among students and teachers, and all of 2 years will be properly utilised by the students for learning. It will help them prepare better for the tougher professional courses ahead.

The semester examinations will also help evaluate the students continuously as it is better than a one-time examination. It will also help to maintain continuity as semester has been introduced in degree courses. Cost should not be a hindrance while taking a decision in this matter.

When the Committee spoke to the lecturers they laid down the following conditions for introduction of the semester system.

1. Provision of adequate infrastructure;
2. Student lecturer ratio should be limited to 1:60;
3. Shift system should be removed;
4. The department should be strengthened to handle 4 public examinations.

The Committee felt that the semester system may be introduced first and these conditions may then be fulfilled on a priority basis within a 2 year time frame. As an alternative, the first 3 semester examinations may be conducted at the district level and the final semester examination may be conducted by the department as is being done in vocational education.

Quality Improvement

The pass percentage in II PUC is still around 50% which indicates a tremendous wastage of human resources. The pass percentage (2007 April results—50.64%) in various combinations is—Arts (48.36%), Commerce (62.23%) and Science (47.28%). In urban areas it is 49.88 and in rural areas, 52.88. These low results are also a reflection of the inadequacies in the system and show that the department has to seriously take up quality improvement programmes in a big way.

Measures to Improve PUC Results

The Perspective Plan Committee recommended that the department should form an expert committee to analyse the causes for these low results as 50% failure is definitely an alarming situation. Based on the expert committee recommendations, the department has to initiate suitable systemic and quality improvement measures like curricular reforms, examination reforms and teacher training.

At the college level, weak students must be identified in the I PUC and the department should arrange coaching classes for them in the college itself. This will help the students from economically weaker sections to do well. Some incentives may be given to the faculty for taking these coaching classes.

Strategies for quality improvement should be taken up in consistently low-performing districts. Within these districts specific subjects and low performing colleges must be targeted. At present, there is hardly any academic supervision of the junior colleges. The colleges showing consistently poor results should be dealt with as per prescribed norms. (First year notice to be served, second year withdrawal of recognition.) A separate body may be created to evaluate, grade and accredit all the Pre university colleges in the state. This function may also be outsourced to a suitable external agency.

Academic and Research Wing for PU Department

Since the Pre university sector does not have an advisory body to advise on academic matters (like curriculum revision, introduction of new courses, approval of textbooks, teacher training, etc.), the Committee recommended that a permanent academic body be set up for the purpose on the lines of DSERT. This institution can perform the functions of NAAC and can also grade and take up accreditation of Pre university colleges. The Committee suggested that, alternatively, a wing for Pre university sector may be opened in DSERT to take care of the academic needs of the department. The district level academic bodies like the District Principals' Association/ Lecturers' Associations need strengthening. Some of the academic work like training may be entrusted to these bodies.

Teacher Training

The department should conduct an induction programme of content and pedagogy for a duration of 2 weeks for newly recruited lecturers in collaboration with various academic bodies, research institutions and universities. The training may be outsourced and use of alternative training modes through Edusat must be explored. The quality of transaction of the teaching-learning process needs improvement through well designed training programmes.

The existing facilities at government CTEs at Mysore, Mangalore, Gulbarga, Belgaum, Jamakhandi and Gulbarga may be utilised for training of PU lecturers. These institutions may be strengthened with additional facilities. One post of coordinator (Principal cadre) and one SDC may be sanctioned to these colleges to enable them to take up training programmes.

Since the + 2 stage has been delinked from the collegiate sector and it is now considered part of secondary education, it is necessary that an appropriate pedagogy based training programme for all teachers at the Pre university stage be worked out. Sufficient funds (at least Rs 100 lakhs per year) must be provided towards conducting orientation programmes.

Incentives for Higher Qualifications

The government should encourage the teaching staff to take up research in their teaching subjects and provide an incentive for completing the Ph D degree (5% of basic salary).

The first priority is to abolish the shift system in buildings in which the P.U. colleges run in the morning and the high schools run in the afternoon. Additional rooms should be sanctioned to such institutions on priority. The department should also take action to immediately appoint sufficient number of lecturers, librarians, physical education lecturers in government junior colleges.

The Government must close down private junior colleges which function in the shift system.

Examination Reforms

The Committee has suggested introduction of semester scheme in the Pre university course to bring about systematic and regular evaluation. The question paper pattern also needs further reforms in tune with the reforms in the X standard public examination (which has been lauded by the National Focus Group on examination reforms who has recommended other states to try out the same). More weightage has to be given to questions relating to ability to access information, sift and evaluate, sort and analyse it.

The department must consider that the nearly 50% failures in the PU examination is a reflection of the quality of education and take adequate measures to improve the same.

Issues of Equity

The norm of establishment of a PU college within 10 km radius needs to be relaxed to 5 km in case of educationally backward districts and blocks in order to cater to rural girls, SC/ST, minorities and in places with natural barriers.

As already stated, enrolment figures show a differential of 7% between boys and girls which needs to be remedied through suitable incentive schemes for girls. It must be noted that girls have consistently performed better than boys in the II P U examination (in 2007 by 13%) which is highly commendable.

Community Support

Community support is essential if the colleges have to improve both physically and academically as it helps in better resource mobilisation. The College Betterment Committees and the parent-teacher associations need to be strengthened and given statutory powers (like the SDMCs) to improve the working of the colleges.

Establishment of Evening Colleges and Distance Education Centres

To enable working students who are not able to take up the PU course in a regular college, there should be facilities (at least one college in every education block) for taking up the course through an evening college.

Facilities must also be provided for opening distance learning centres at central locations in every education block. These centres may give contact programmes to such students, provide study material and allow them to take up the PUC public examination. The Directorate should establish a separate wing to run the evening colleges and distance education centres.

Options for Average and Low Achievers

Success in any field today is a numbers game. The score of the candidate in the PU examination/entrance test is the sole parameter for admission to any professional course or a degree course in a reputed college. Since undue importance is always given to high scorers, we should also spare a thought for the low scorers. Failure to achieve the requisite grade causes anguish and despair in a majority of students and deprives them of admission in reputed colleges. While many feel unwanted, some feel that it is the end of the road and take extreme steps like committing suicides.

Suitable counselling is necessary to instil a sense of self-belief and help the average students to choose suitable courses or one of the numerous career opportunities that are open to them regardless of low scores. These students, who form a large majority, should be helped to acquire job oriented practical skills as there is tremendous scope in the ever expanding job market in various sectors—telecom, IT/BT, call centres, shipping, media, advertising, aviation, para-medical fields, agro products, food processing, sericulture, horticulture, insurance, hospitality and various types of businesses. Students can also opt for self employment in various fields especially in the services sector.

The PU department should open counselling centres in every college in collaboration with the vocational education directorate and also have a tie-up with local industry leaders. Two lecturers from each college may be given suitable training in guidance and counselling.

Recruitment

Every year a number of vacancies occur in government and aided PU colleges due to death, retirement and transfers. These vacancies are not filled up for long periods. This also is an important reason for low performance of the students in the PU examination. Filling up of vacancies and recruitment should be based on scientific forecasting of requirements and manpower planning. All recruitment and transfers should be completed before the commencement of the academic year. The lecturers may be recruited through centralised recruitment as is done in the case of primary and secondary teachers which speeds up the recruitment process.

College Betterment Committees (CBCs)

This is a Committee consisting of the Head of the institution, a senior lecturer of the college and a panel of "responsible" persons from the local community in which the college is located. The responsible persons are MPs/MLAs/MLCs/Panchayat members/ doctors/engineers/professors/businessmen/ social service oriented people/NGOs/ retired lecturers, etc. The sub sector study report noted that the CBCs in good colleges (with results 70% and above) function with a relatively higher degree of efficiency than those in poor colleges (less than 30% results) in mobilisation of resources for the college. The report further notes that the community involvement is inadequate in poor colleges.

Vocational Education at the +2 stage

The vocationalisation of education has been a major issue in the context of the overall transformation of the education system in the country. The Education Commission (1964) justified the need for introduction of vocational courses within the prevailing system of general education. The NPE 1986 also stressed the need for giving due importance to the same in order to prepare the increasing number of school leavers for different vocations in life.

It was envisaged that 10% of students would be diverted to vocational courses from the mainstream at the +2 stage, as at 1996, and 25% by the end of 2000. But in reality, this target could not be achieved due to a number of factors.

Growth of Vocational Education

The vocational education at the Pre university level was implemented in the state in 1977-78. Under the scheme, the state was running 260 vocational courses. When the central government introduced a vocational scheme as per NPE 1986, the state scheme was merged with the central one in 1988. Under the central scheme, 1427 courses were offered in 46 trades in PU colleges, and 13 trades in engineering colleges and polytechnics.

The salient features of the central assistance from 1993-94 as per MHRD guidelines were

- Rupees one lakh grant per course for purchase of equipment
- Rupees one lakh grant for construction of work shed for each course
- Salary grant of Rs 31,000/- per year for each course

The following table gives the phase-wise introduction of vocational courses under the central scheme in the state.

Table 11.11

Phase-wise Distribution of Vocational Courses

<i>Phase</i>	<i>Year</i>	<i>Courses Sanctioned</i>
I	1988-89	100
II	1989-90, 90-91	140
III	1991-92	50
IV	1992-93	300 + 237(Non Plan)
V	1993-94	200
VI	1994-95	200
VII	1995-96	200
Total		1427

Source: Status- Annual Report 1999 GOK

A Committee was appointed under the chairmanship of Dr Ramegowda, Vice-Chancellor of Karnatak University for implementing the central scheme of vocational education.

The recommendations of the Committee were

- Introduction of rapid Industrial Training programme
- Short term Technical Expertisation Development Programme
- Long term Technical Service Conducting Programme

However, now the state bears the entire financial burden after the central government discontinued the financial assistance.

The following table gives a bird's-eye view of the increase in enrolment in vocational courses in the state.

Table 11.12

Increase in Enrolment in Vocational Courses

Year	1981-82	1985-86	1991-92	2000-01	2006-07
Enrolment	2,951	5,477	16,000	44,675	58,910

Source: Annual Reports of the Education Department

This still falls short of the target of diverting 25% of students from the mainstream to the vocational courses.

Objectives of Vocational Education

The main objectives of vocational education at the +2 stage are:

1. To reduce pressure on higher education and to provide an alternative avenue for those students who do not wish to pursue higher education.
2. To prepare students for self reliance and to build self confidence to be self employed.
3. To identify skills in students and to train them accordingly.
4. To inculcate work culture in students and to facilitate building their future life on their own.
5. To cater to the needs of organised and unorganised industries by providing skilled workers.

Administration of Vocational Education

The administration, examination and academic supervision is done by a separate Director of Vocational Education in the state. Karnataka was the first state in the country to create a separate directorate for the purpose. In order to make the programmes more effective, the Deputy Directors of Pre University Education working in each district were assigned to supervise vocational education programmes also from 1997-98. These Deputy Directors are responsible for approving admissions, supervising examinations, conducting inspections and releasing grants to vocational education staff.

The state has regularised the services of 153 vocational education staff with full workload. The remaining staff is paid part-time remuneration for 8 months in a year. The details of teaching and non teaching staff working in vocational education are as follows:

Table 11.13

Details of Vocational Education Staff (2006)

Staff Particulars	Full-time staff	Part-time staff
Lecturers	83	1991
Worker teachers	40	1881
Lang. teachers	22	693
Non teaching staff	08	445
Total	153	5010

Source: Annual Report 2006-07

Coverage of Vocational Courses

The major vocational areas identified for imparting vocational education are

1. Agriculture related courses (e.g. agricultural economics, farm management, cooperation, dairying, fisheries, horticulture, sericulture, etc.)
2. Commerce and business courses (e.g. accountancy and auditing, taxation, banking)
3. Technical related courses (e.g. automobile servicing, civil construction technology, clock and watch repairs, etc.)
4. Paramedical and Home science (Pre school education, health and beauty care)
5. Job-linked courses in polytechnics and engineering colleges (automobile servicing, garment making and embroidery, office automation, etc.)

The most popular courses are sericulture, dairying, horticulture, electrical wiring and automobile servicing.

In the beginning of the VII plan (1985–90), there were 212 courses in 132 institutions covering 5428 students. By the end of the plan, 464 courses were being offered in 41 trades in 260 institutions covering 14,000 students. The VIII plan (1992–97) covered 493 courses in 50 trades in 283 institutions benefiting 15,000 students. As in 2005–06, 30 trades in vocational education were being taught in 192 government and 334 private PU colleges, 2 government and 2 private I grade colleges and 3 government and 15 private polytechnics in the state.

The student strength in 2006–07 was: I year – 30,414; II Year – 28,496.

Apprenticeship Advisory Board

The central government has constituted the office of the Apprenticeship Advisory Board, under the Apprenticeship Act 1961. This Board is responsible for organising training for these students in various industries.

State Institute of Vocational Education (SIVE)

The institute came into existence in 1994. The main functions of SIVE are to frame the syllabus for different vocational courses, conduct training of vocational education teachers, give entrepreneurship training to students and participate in different academic programmes. The institute also prepares teachers' manuals for different courses. Action research projects and technology teaching workshops are undertaken in collaboration with several other institutes in the education and vocation education field.

The institute conducted a centralised apprenticeship programme for 2000 candidates in 2005–06 in various trades at Dharwar, Shimoga, Gulbarga, Bangalore, Chitradurga, Raichur, Karwar, Bijapur, Mysore and Bidar.

State Council for Vocational Education (SCVE)

The SCVE was constituted in 1978 with the Director, Vocational Education as the chairman and Vocational Education Officer as member secretary. The SCVE frames the rules for conduct of examinations and for other administrative matters. The Council awards certificates after conducting the examinations.

Examinations

Vocational courses and examinations are conducted under the semester system. The first and third semester examinations are college level examinations. The second semester examination is conducted at the district level from 2004. The fourth semester examination is conducted as a state level public examination. In the 2006 (April) IV semester public examination 17,142 students out of 24,531 passed, giving a pass percentage of 69.88%.

Vocational Education – Problems and Issues

Vocational Education at the + 2 stage has been designed to develop necessary skills and offer the student greater scope for employment/ self employment, thus reducing pressure on general education.

Many of these vocational courses neither focus on market/industry needs nor provide on-job training. The lack of enthusiasm for these courses over the years appears to be due to lack of adequate funding by the state government, inadequacy of apprenticeship training to students, lack of proper counselling and guidance to the students. There is need for placement services and assistance for self employment. There is also considerable gap in the present vocational courses and the progress of technology.

Proper coordination and linkages need to be developed between the vocational colleges and industry. The industry should be in a position to provide on-the-job training and absorb the students thereafter.

Skill Development

The GOI's XI Five Year Plan document estimates that only 3% of the existing workforce can be called skilled and only 20% of those entering the workforce are being given some kind of formal training. Skill development poses more challenges and there is tremendous scope for expansion in this area. Hence our vocational education and training system needs to cover more trades.

The GOI proposes to launch a major "National Skills Development Mission". The Mission will aim at expanding the public sector skill development infrastructure and support private skill development initiatives in twenty high growth sectors of the economy through government support in different forms and also provide fee subsidisation to candidates. There is also a proposal to create a "National Skill Development Fund" and a "Virtual Skill Development Resource Network" which can be accessed by trainees to gain web based learning.

Recommendations of the Perspective Plan Committee

The Perspective Plan Committee deliberated at great length on the present scenario of vocational education in the state at the +2 stage. There is urgent need to give priority to this sector as industries from around the globe are outsourcing services to companies situated in the state. Hence, it is important to enhance the skill levels of students entering the services sector. There is need to make India the skill capital of the world and develop the available human resource to cater to the varying needs of the services sector around the world.

After deliberating on the above aspects, the committee made the following recommendations.

1. In order to improve the productivity levels of children coming out of the secondary education system, the state should endeavour to bring at least 25% of the children (of the 16–18 age group) into the vocational streams.
2. This means that all the children in the above age group should be either in the regular P U course or vocational courses by 2012.
3. This also implies that 25% of the PU budget should be earmarked for vocational courses. This will go a long way in providing adequate infrastructure and equipment to the colleges.
4. It should be mandatory that every PU college opens at least one vocational course. Existing PU colleges may be given 2 years time to create the necessary infrastructure.
5. Vocational courses at the +2 stage should be a logical continuation of the proposed vocational courses started from IX standard.
6. The Vocational Education Department should fix specific standards of minimum competency and skill levels that every student should obtain in each vocational course.
7. At the block level, there should be a minimum of 2 government PU colleges (one each for boys and girls) having vocational courses suited to the local specific needs.

8. The local industries may be roped in for expert academic support for running these courses. Instead of training being conducted by the regular staff, it should be outsourced by linking to the job market.
9. The internship/apprenticeship/placement may also be outsourced.
10. Students who fail in the X standard public examination may be admitted to the P U vocational courses.
11. The roles and responsibilities of vocational teachers should be redefined as they have to turn out a skilled workforce to suit the present dynamic industry requirements.
12. Minimum basic infrastructure (for vocational education) should be made available in all PU colleges to ensure the turnout of a skilled workforce required by the country.
13. The state government should constitute an apex body including industry leaders to monitor, regulate and control vocational education in the state.
14. The vocational education department should be a permanent department with sanctioned posts of staff in colleges.

Chapter 12

Higher and Technical Education

Growth of Higher Education in Karnataka

Higher education is crucial for economic development of a country, as it builds the much needed capacities within the education system and also provides qualified and trained workforce to the country. Higher education is also perceived as a passport towards upward mobility. The enormous growth of the higher education sector in Karnataka has to be viewed in this context.

The Report of the Karnataka Universities Review Commission (1993) outlined 4 important roles for higher education in the state:

1. To move into new frontiers of knowledge by fundamental and applied research, keeping in mind the changing nature of society and yet passing on the traditions through knowledge, skills and values to upcoming generations.
2. To provide basic knowledge to the students through teaching and research.
3. To develop skilled personnel to meet the ever growing and complex needs of modern society.
4. To provide a basis for continuing education for updating the knowledge by providing extension services.

Higher education in Karnataka comprises general (termed as collegiate education), technical, medical and agricultural education. However, this book limits its scope to collegiate and technical education sectors.

The development of higher education has been the joint responsibility of both the central and the state governments. While the government has been establishing new colleges, it has not taken into consideration the faster growth of private educational institutions in this sector. Even though private institutions are not under governmental control, they are nevertheless assets of the state created through public contributions.

But within the higher education sector, the growth and development of different components has been highly uneven. Inadequate attention to academic issues in higher education coupled with rapid increase in the number of colleges and enrolment has impacted the quality of higher education.

There is a general perception that the higher education (especially post graduate education) offered by our institutions is not of a very high standard. This has prompted several bright young students to go abroad for higher studies. Exceptions are the Indian Institute of Science and other premier institutions which offer quality education.

Student Enrolment Patterns

The growth of higher and technical education institutions in the state has been phenomenal. But in spite of this, only 9% of the youth population (GER in the age group 17-24) is enrolled. This proportion is far too low compared to developed countries which have about 40%, and South East Asian countries which have about 20% of the youth in the indicated age group enrolled in higher education. China has increased its GER in higher education from 10% in 1998 to 21% in 2005. The XI Five year plan document of GOI

envisages increasing the GER to 15% by end of the eleventh plan and reaching 21% by the end of the Twelfth Plan.

In the higher education sector, the student enrolment has grown steadily at around 9% per year. In technical education sector, the annual growth in terms of institutions and enrolment is around 4.4 %. A significant feature of this sector is that the engineering colleges in the state cater to a large number of students from outside the state too.

About 85% of those who complete the PUC public examination enter the higher education stream. Even though enrolment in general higher education has significantly increased over the years, there is a serious imbalance in admissions to different streams and courses. Student composition by discipline of study indicates that 55% of enrolment is in humanities at the degree level. Even number of students opting for the commerce stream has declined over the years.

The Edu, vision document notes – “Beyond secondary education, admission criteria play an important part in regulating demand, but transition rates are high among those who are eligible to continue. Student performance in the terminal exam at the end of class X and XII is the major factor determining the progress through the system... Interestingly, of those who pass the higher secondary education (PUC), a very high percentage (85%) continues to degree level education”. But the most important point to be noted is that the higher education sector has remained practically unchanged over several decades and has also been unresponsive to changes taking place globally.

Another issue is maintenance of quality in higher education institutions. These institutions face several issues like poor infrastructure, poor quality of students, lack of qualified faculty, non availability of faculty in certain streams, quality concerns in curriculum, etc. The interface between institutions of excellence and the higher education institutions is also minimal.

Collegiate Education

The growth and development of universities and colleges in the state has been influenced by the policies of the UGC as well as the state government. The state government deals with all the issues related to higher education through the Department of Collegiate Education. The department has 6 regional offices located in the university centres of Bangalore, Mysore, Mangalore, Shimoga, Dharwar and Gulbarga.

The stated aim of this department is to

- (a) Provide social justice to all sections of society by creating opportunities to get higher education;
- (b) Encouraging students to become good citizens through overall development;
- (c) Empowerment of women and weaker sections through higher education.

Undergraduate (general) education in the state is provided by the government and private colleges affiliated to the state universities, and postgraduate education is offered by university departments and some autonomous colleges. The department of collegiate education establishes and administers government degree colleges and also supervises the work of aided colleges, while also sanctioning salary grants to these institutions.

Curriculum and examination for various courses are prescribed and organised by the various universities. However, the most important issue is one of maintenance of quality and standard in these institutions.

Pattern of Education

At the time of independence, the pattern of education in princely Mysore state was 11 years of school education followed by 2 years of intermediate course and 2 years of degree or 3 years of Honours course. In 1957–58, one year pre university course was introduced in place of the intermediate course and the 2 year degree course was increased to a 3 year course from 1958–59.

The Pre university course was a part of the colleges under the administrative control of the Director, Collegiate Education and the academic control of the universities. This position changed as the 2 year Pre university course was introduced in 1971–72 and the examination work of the Pre university course was taken over by the Pre university Board (now called the Department of Pre university Education) in 1972.

The government took an important policy decision to bifurcate Pre university colleges from degree colleges and this process was completed during the period 1997–2000.

Growth of Collegiate Education Institutions

After independence there was a rapid expansion of general education with the establishment of colleges offering arts, science, commerce, law and home science courses especially in urban areas. The provision of grants from UGC helped the rapid development of these colleges. Originally they came under the control of the Director of Public Instruction. But the rapid increase in their number necessitated the creation of a separate directorate. When the Department of Collegiate Education was established in 1960, all colleges of general education except the university colleges were brought under the control of the Directorate.

Table CE 1 shows the increase in number of colleges over the years after independence. There was also a substantial increase in the number of government colleges which is found reflected in Table CE 2. However, the number of government aided colleges has remained practically unchanged (Table CE 3). But there has been a phenomenal increase in the number of private unaided/self financing colleges (Table CE 4). As already discussed in Chapter II, the Directorate of Collegiate Education does not maintain data pertaining to unaided and self financing colleges.

In 2006–07, there were 182 government first grade colleges, 307 private aided colleges (299 general degree, 8 aided law colleges) and 561 private self financing colleges spread over 8 universities in the state. The government sanctioned another 100 government first grade degree colleges and 4 government law colleges in its order ED 144 YOYOKA 2007 dated 27/04/2007 which will be made functional in 2007–08.

Enrolment

Pursuance of higher education appears to be the motivation for the highest number of students joining a degree course. It also helps them in upward mobility and to land in better paying jobs.

Table 12.1 gives the enrolment figures of government and aided colleges for the years 2001–02 to 2006–07.

Table 12.1
Enrolment in Government and Aided Colleges

Year	Government Colleges			Private Aided Colleges		
	Men	Women	Total	Men	Women	Total
2001–02	33,922	24,477	58,399	79,988	74,810	1,54,798
2003–04	39,045	38,234	77,279	1,18,861	1,14,898	2,33,759
2005–06	52,363	47,052	99,415	1,18,581	1,05,802	2,24,383
2006–07	52,443	67,045	1,19,488	1,10,066	99,605	2,09,671

Source: Annual Report 2006–07

An analysis of the table reveals that there has been an increase in enrolment in government colleges by more than 100% and in private aided colleges by 35% during the period between 2001–02 and 2006–07.

The minimum enrolment in science/arts/commerce courses is specified to be 120 in degree colleges. Workload for a fulltime lecturer is fixed at 16 hours/week for non experimental subjects and 20 hours/week for experimental subjects in degree colleges.

Issue of Declining Enrolment in Science Courses

A large number of students passing the PUC examination in science stream opt for professional courses in engineering and medicine leading to a steep decline in enrolment to science courses at the degree level. The sub sector study points out that there was a decline from 15.79% in 1996-97 to 10.73% in 1999-2000. This has raised the issue of sustainability of the investment made in expensive science teaching facilities.

Also, a decline in demand for postgraduate education in basic science streams has impacted the availability of quality manpower for basic science programmes, science oriented industries, laboratories, scientific research institutions and ultimately supply of science teachers to secondary and higher education sectors. It must be noted that lack of participation in general science and mathematics courses causes serious imbalances and is detrimental to building a modern society in the long run.

Curriculum and Coordination

The Karnataka State Universities Act prescribes a separate Board of Studies for every subject or groups of subjects, both for undergraduate and postgraduate courses. The most important functions of the Board are to recommend new subjects and courses, prepare and recommend the syllabus and text books in the respective subjects. The nature and number of subjects of study for every course are prescribed by the university and students do not have any option to choose subjects according to their levels.

The Act provides for coordination between the university, affiliated colleges and the state government through representations in the various authorities of the university such as Academic Council, Senate and Syndicate. Similarly, coordination in curricular aspects between the university and affiliated colleges is ensured by giving membership to professors working in affiliated colleges in Boards of Studies.

The Act provides for coordination between the universities and the state government through the Karnataka State Inter University Board (IUB) with respect to the following:

1. Development of academic facilities, specialisation and standards;
2. Matters affecting students—eligibility for admission, mobility and examinations;
3. Compliance with reservation and roster system in universities.

Since Vice-Chancellors of all universities including the Karnataka State Open University are members of the IUB, it also acts as a coordinating body between regular and distance education in the state.

Autonomous Colleges

The Education Commission of 1964 had recommended the concept of autonomous colleges with a view to provide academic freedom to reputed colleges in academic areas such as designing the curricula, evolving new methods of teaching, research, framing own admission rules, prescribing separate courses of study and examinations.

Under the Autonomous Colleges Scheme of UGC, a college declared autonomous by the affiliating university is responsible for the content and quality of education it imparts, setting its own examination papers and for conduct of examinations. The college evaluates students for the award of degrees which will be accepted by the parent university.

But autonomous colleges have to abide by the rules, regulations and policies of the state. The financial autonomy of the college is another important issue as any reform needs additional input costs which have to be borne by the college.

Role of UGC

The UGC is a national and statutory body established in 1956. It sets standards for recruitment and promotion of teaching staff in colleges, provides financial assistance to affiliated colleges and promotes excellence in higher education institutions.

The role of UGC in collegiate education includes

1. Formulation of guidelines for recruitment, promotion and workload of teaching staff;
2. Financial assistance for developmental purposes for permanently affiliated colleges, vocationalisation at the first degree level, and faculty improvement;
3. Approval of autonomy for colleges;
4. Assisting universities in establishment of College Development Councils, SC/ST cells and academic staff colleges;
5. Assessment and accreditation of colleges through NAAC.

Role of the State Government

The state government has both regulatory and promotional functions in collegiate education.

1. Establishment, organisation, financing, promotion, regulation, and management of government colleges;
2. Financing of grant-in-aid colleges;
3. Implementation of reservation and roster system in recruitment and promotion of staff in aided colleges;
4. Granting recognition through approval of affiliation or autonomy for all colleges;
5. Permission to start new institutions.

Within the state government, the Directorate of Collegiate Education has the following functions.

1. Promotion and regulation of general degree colleges and law colleges;
2. Coordination between the state government and universities;
3. Disbursement of grant-in-aid to colleges.

Vocational Education in Collegiate Education

The UGC provides financial assistance to run vocational education courses in general degree colleges possessing requisite physical infrastructure and capacity. The amount of financial assistance varies from Rs 9 lakh to Rs 17 lakh per subject. The vocational subjects include Industrial Microbiology, Industrial Chemistry, Foreign Trade and Practice.

Rise in Demand for Non Traditional Courses

The last decade has seen a rise in demand for non traditional professional courses such as Bachelor of Business Management (BBM), Bachelor of Hotel Management (BHM) and Bachelor of Computer Applications (BCA). Several vocational subjects have also been introduced along with traditional ones.

Improvement of Quality in Collegiate Education

The quality of collegiate education is reflected in the quality of performance of the students which, in turn, depends upon the quality of teaching staff and the availability of quality infrastructure facilities in the colleges. Some of the quality aspects discussed for secondary and pre university education sectors apply equally to educational institutions in the collegiate education sector as well.

The sub sector study report on collegiate education has identified the following broad indicators of quality in collegiate education.

1. Pass percentage of students;
2. Retention rate of students;
3. Availability of qualified and trained teaching staff;
4. Infrastructure facilities;
5. Student Teacher Ratio.

The UGC has prescribed norms and minimum qualifications for various categories of teaching posts — Principals, Professors, Readers and Lecturers. Under career advancement, for movement into grades of reader and above, the minimum eligibility criterion is the PhD degree. The National Eligibility Test (NET)/ State Level Eligibility Test (SLET) is a compulsory requirement for appointment as lecturers.

In spite of this, we find many newly started government and private self financing colleges lacking in proper infrastructure and adequate number of qualified teaching staff. According to the statistics provided by the department, out of 182 government colleges only 134 colleges are running in own buildings. The rest are sharing infrastructure with other institutions.

Role of NAAC in Improvement of Quality

The main objective behind the establishment of NAAC in 1994 was to work continuously towards improvement of quality in affiliated colleges and universities. The criteria for NAAC's assessment includes curricular aspects: teaching-learning and evaluation; research, consultancy and extension; infrastructure and learning resources.

NAAC has a 3 step process for evaluation of institutions.

1. Submission of a self study report by the concerned institution;
2. On-site visit of the peer team for validation of the report;
3. Gradation of the institution from one star to 5 stars.

98 government colleges and 281 private colleges have been accredited by NAAC as per the annual report of the department for 2006–07.

Issues in Collegiate Education Sector

As already discussed, there is a need to improve GER in higher education as it is necessary not only to meet the needs of the growing economy but also the aspirations of younger people who see education as an essential requirement for advancement. Along with expansion, it is also necessary to aim at improvement in quality. While the premier institutions compare well internationally, a large number suffer from serious quality concerns. A general improvement in quality in the existing institutions is necessary including upgradation of facilities and improved methods of teaching.

The department needs to take up an extensive college mapping exercise in order to identify unserved areas and ascertain the availability of access in all areas of the state. This will also help to plan and establish new colleges based on present and future requirements.

There should be a minimum of 10 day training for all government, aided and unaided college lecturers and principals of colleges, to build capacities and classroom transaction skills. There should also be capacity building in using technology such that every lecturer is able to use computers/ internet to enhance his content knowledge and presentation skills.

The department should conduct an induction programme of content and pedagogy for a duration of 2 weeks for newly recruited lecturers in collaboration with various academic bodies, research institutions

and universities. The training may be outsourced and use of alternative training modes through Edusat should be explored.

The quality of transaction of the teaching-learning process needs improvement through well designed training programmes. Special pedagogic courses have to be designed for untrained teaching staff. In-service training should be systematic and cover all teachers in a 3- year cycle.

1. In spite of specific recommendations made in the sub sector study in 2002, the collegiate education department has not taken steps to consolidate data on the collegiate education sector in the state. The department has been presenting data only in respect of government and aided colleges in its annual reports. The data on private unaided colleges is simply not available with it.
2. The annual reports of some universities do not include data on affiliated colleges. Data with respect to all colleges should be made available in a common format.
3. In some cases the government colleges (in which a lot of investment has been made) have been closed down due to decline in enrolments. This indicates poor planning by the state and wastage of scarce government resources.
4. Permission to start new colleges (whether government or private) must be based on proper planning and institutional mapping. Consolidation of colleges also needs to be given priority by the department to avoid duplication of facilities and reducing the total social cost.
5. The state should develop specific norms for starting of new colleges and adhere to them while permitting new government or private colleges to start.
6. The role of distance education has to be taken into consideration while permitting new colleges in a given area.
7. The quality of infrastructure, payment of salaries, amount of fee charged from students and quality of students admitted differs from college to college. These issues need regulation for improvement of quality.
8. The average 50% results in the university examinations points to the important issue of maintaining and improving quality of education provided by a majority of the colleges in the state.
9. Quality of students (with just pass class) seeking admission in rural government colleges impacts quality of the concerned colleges. The need for diverting such students to vocational courses and raising the bar to admit only those who are interested into higher education needs to be considered by the department.
10. Teachers who teach in colleges are not trained in methods of teaching. There is no system to evaluate their in-class performance.
11. Universities should follow a specific calendar, complete examinations and declare results on time. Failure to do so costs job/future education prospects of thousands of students every year.
12. The postgraduate courses and postgraduate centres run by the universities outside their campus lack the minimum infrastructure facilities and teaching staff. This has not been rectified even though the sub sector study report had pointed this out in 2002.
13. The Tumkur postgraduate centre which was converted into Tumkur University as well as the Women's' University at Bijapur still lack the basic minimum infrastructure facilities and adequate qualified staff.

University Education in Karnataka

A university is the most important institution for promotion and regulation of academic work in collegiate education. The framework of functioning of the universities is stated in the Karnataka State Universities Acts 1976 and 2000 as well as in statutes and resolutions formulated within each university.

Each university deals with all academic matters in collegiate education in areas under its jurisdiction through granting affiliation to courses and colleges, fixing the curricula, conduct of examination, evaluation, awarding degrees and providing financial assistance to affiliated colleges.

Twelve universities are functioning in the state as in 2006 – 07. They are—

1. Mysore University, Mysore
2. Karnatak University, Dharwar
3. Bangalore University, Bangalore
4. Mangalore University, Mangalore
5. Gulbarga University, Gulbarga
6. Kuvempu University, Shimoga
7. Kannada University, Hampi
8. Tumkur University, Tumkur
9. Karnataka State Open University, Mysore
10. Women's University, Bijapur
11. Visveswaraiah Technological University, Belgaum (VTU)
12. Rajiv Gandhi University of Health Sciences, Bangalore

All the universities enjoy a high degree of autonomy. There is an IUB to bring coordination among universities in academic matters. All the universities (except Kannada University, Women's' University and Open University) have university colleges and affiliated colleges.

Apart from postgraduate courses at the respective university campus, some of these universities have also established postgraduate centres in districts coming under their jurisdiction.

Table 12.2
University Postgraduate Centres

Sl. No.	University	Postgraduate Centre
1.	Bangalore	Kolar
2.	Mysore	Mandya, Hassan
3.	Mangalore	Kodagu
4.	Kuvempu	Davanagere
5.	Gulbarga	Nandi halli, Bidar, Raichur
6.	Karnatak	Belgaum, Bijapur, Karwar

Source: Education Department Performance Budget 2007–08

Kannada University established at Hampi is a totally research oriented unitary university. It runs M. Phil and PhD courses in various disciplines. The Women's University at Bijapur has been established to promote the education of women in the state. These two universities do not have affiliated colleges.

Visveswaraiah Technological University (VTU) has been established exclusively for the development and promotion of engineering technology and allied sciences. All the engineering colleges in the state are affiliated to this university.

Rajiv Gandhi University of Health Sciences, Bangalore has been established for the promotion of health and medical sciences in the state. All the medical, dental, pharmacy and nursing colleges in the state are affiliated to this university.

Distance Education

Distance education courses, which were being offered by the Mysore and Bangalore Universities for a long time, got a major fillip with the establishment of Karnataka State Open University at Mysore in

1996. It came into being by taking over the administration of the Institute of Correspondence Courses and Continuing Education of the University of Mysore. It caters to the educational needs of adults and conducts correspondence courses through the distance learning mode.

Foreign universities offering accredited courses (though expensive) provide another avenue through which students can obtain higher education. This has helped to enhance access to higher education for students from across the state.

Current Status of University Education in the State

Some of the important issues that are impacting the higher education sector in the state are

- Lack of relevance of courses;
- Poor quality of teaching;
- Low percentage of students in postgraduate courses and research;
- Imbalances in enrolment between various streams;
- Poor learning outcomes.

A committee (headed by former Vice-Chancellor Dr S Chandrashekhara Shetty) constituted by the Bangalore University on evaluation and implementation of academic reforms did a reality check on the functioning of Bangalore University departments and came up with certain important revelations which typically represent the status of university education in the state.

1. Only 3 departments (Sanskrit, Foreign Languages and Commerce) out of the 40 university departments published a research article in international journals during the academic year 2006–07.
2. Many departments (notably Geography, Mathematics, Botany, Statistics, Applied genetics, etc.) recorded high dropout rates among students in the postgraduate courses.
3. Several departments (notably Sanskrit, Urdu, Foreign Languages and Physical Education) had not taken up even a single research project.
4. Only 4 departments (History, Performing Arts, Commerce, and Education) could organise a national level seminar in 2006–07.
5. The Department of Sanskrit with a faculty strength of 5 had only 6 students in 4 semesters. On the other hand, the Department of Electronics had a faculty strength of 3 with a student strength of 62.
6. In the Department of Computer Applications, the research publication index is 0.1 per year per faculty.

Maintenance of Quality in Institutions of Higher Learning

At the national level, the NAAC functions as the body for monitoring the quality of higher education institutions. This has enabled to provide a benchmark for gradation of quality of the institutions in this sector. Currently, there is no such mechanism to monitor quality in private institutions.

Several institutions are yet to catch up on introduction of ICT as they lack the requisite infrastructure. Faculty improvement programs conducted by Academic Staff Colleges have become routine in nature. Capacity building of teachers in higher education should provide facilities for research and access to global developments in their respective fields.

Examination System

Each university conducts examinations as per the prescribed curriculum for each course. Performance of students is determined by the percentage of marks obtained in the annual/semester examination conducted

and evaluated by the university. The following table gives the results in respect of degree courses in government and private aided colleges:

Table 12.3
University Examination Results

Year	Government Colleges	Private aided Colleges
2001-02	37%	51%
2002-03	40%	42%
2003-04	52%	47%
2004-05	49%	50%
2005-06	53%	54%

Source: Annual Report 2006-07

Since these are combined results from all the universities, it is difficult to analyse them, as there is bound to be inter university differences in quality, level of courses and other parameters. The results in recent years are hovering around the 50% mark which means that there is wastage and stagnation to the extent of remaining 50%.

A Brief Sketch of some of the Universities in the State

University of Mysore

The University of Mysore has the distinction of being the first university in India founded by an Indian ruler for the benefit of his subjects. It was inaugurated on 22nd July 1916. It started with two colleges —The Maharaja's college, Mysore and the Central College, Bangalore. In 1917, 2 other colleges—the Maharani's College, Mysore and the Engineering College, Bangalore were brought under the control of the University. The Medical College started at Bangalore in 1924-25 was shifted to Mysore in 1930.

During the course of the first 10 years of its existence the university had 5 constituent colleges. At the time of independence, the University had 13 affiliated colleges (10 general, 2 professional and one engineering) with a student strength of 7629. The University was supported by liberal grants from the state government in addition to endowments and fees. The expenditure of the University in 1947-48 was Rs 33.12 lakhs.

Till 1957, the University was treated as a department of the government. By the Mysore University Act of 1956, it became autonomous from 1 January 1957. It had the administrative control of all the affiliated government colleges. At the time of reorganisation of the state, it had 23 postgraduate departments and 42 affiliated colleges.

The transfer of all government colleges (except Maharaja's college, Yuvaraja's College, the Engineering College, Bangalore and the Central College, called as University Colleges) from the administrative control of the University in 1960 enabled the University to concentrate its attention on postgraduate courses and research. Further, the development of the picturesque 300 acre postgraduate campus (named as Manasa Gangothri) helped the university to make it an important centre of higher learning in South India.

Karnatak University

The Karnatak University started functioning in 1950. The jurisdiction of the university extends over the districts of Dharwar, Belagaum, Uttara Kannada and Bijapur. It has developed a beautiful campus at Dharwar and has been a pioneer in offering distance education in postgraduate courses.

Bangalore University

The Bangalore University came into existence in 1964. The Central College and the College of Engineering became University colleges and were the focal point around which it developed. The University has developed a 1020 acre campus near Nagarbhavi (called Gnana Gangothri), where a majority of the postgraduate departments are located. The Bangalore University has developed over the years as one of the biggest universities in the country and has more than 40 departments.

Technical Education

Technical education in Karnataka has witnessed phenomenal growth during the last few years. The unprecedented growth in the number of colleges is mainly due to the influx of a large number of students from outside the state and outside the country seeking admission to engineering colleges in the state.

The sub sector study on technical education, notes, "On an All India basis, Karnataka accounts for 11% of the number of postgraduate institutes, 12% of degree institutions and 16% of diploma institutions. Intake-wise, Karnataka's share is 6% for postgraduate courses, 17% for degree courses and 17% for diploma courses". The migration of students to Karnataka from other states is about 16% for postgraduate courses, 25% for degree courses and 6% for diploma courses. The study found that migration of students from the state to other states was less than 2% for postgraduate courses and less than 1% for degree and diploma courses.

The technical education (comprising engineering degree and diploma courses) sector in the state is influenced by the policies of the state government as well as that of All India Council of Technical Education (AICTE). The Directorate of Technical Education is responsible for overseeing the implementation of state policies in technical education. Engineering education is available in colleges affiliated to the Visveswaraiah Technological University (VTU).

The state also has the National Institute of Technology, Suratkal (formerly Regional Engineering College, Suratkal), which provides both graduate and postgraduate education in the technical education sector.

Polytechnics which provide post secondary diploma in technical education are supervised through the State Board of Technical Education which prescribes the curricula and conducts examinations.

Growth of Engineering Education in the state

The first engineering institution called the Engineering School was started in 1860 as a part of the Government High School, Bangalore. The next institution was the Government College of Engineering, Bangalore which was started in 1917. Till Independence, this was the only engineering college in the princely Mysore state, the second being the BMS Engineering College, Bangalore which was started in 1947-48.

Two more engineering colleges were started, National Institute of Engineering, in Mysore in 1950-51, and the BDT College of Engineering in Davanagere in 1955-56. The total enrolment in all the 4 institutions in 1955-56 was 2,743. With the integration of the state, one more engineering college was added to the list.

Since high priority was given to industrial development in the II and III Five Year Plans, a large number of industries came up both in public and private sectors in the state. This created a great demand for engineers and led to the starting of a number of engineering colleges.

But unfortunately, the demand for engineers went down during the IV Five Year Plan. Hence, the engineering colleges were forced to reduce their intake. While the demand for civil engineering was poor in all the colleges, it showed an upward trend in mechanical engineering, electrical engineering and electronics. Subsequently new courses such as architecture, chemical engineering, metallurgy and telecommunications were introduced. In place of integrated courses, semester scheme was introduced in engineering colleges from 1968-69.

Private Sector Participation

By the end of the V Five Year Plan (1979), there was considerable demand for expansion of technical education. As the state was financially not in a position to undertake this expansion, it allowed the private sector to establish and run technical institutions on a self financing basis.

As a result, a large number of private engineering colleges and polytechnics came into existence in the state. As these institutions were charging heavy fees for admitting students under the management quota, the Supreme Court intervened and defined norms for admission and the fee structure for the self financing engineering colleges.

Present Status

There has been an unprecedented growth in respect of capacity expansion in engineering education in recent years. The number of engineering colleges has increased from a mere 35 in 1980 to 123 in 2006 (Tables TE 1 and TE 2). This growth has been phenomenal especially in respect of private unaided and self financing institutions. At present, 87% of the institutions are in the private sector and contribute to 80% of the total enrolment.

As in 2006–07, there were 123 engineering colleges, 183 polytechnics, 6 junior technical schools and 3 Fine Arts degree colleges. Out of the 123 engineering colleges, 5 are university engineering colleges, 11 were private aided and 107 were private self financing colleges. More than 50% of the institutions were located in metropolitan cities. The most sought after streams were in the ICT sector. This has contributed to the growth of the IT sector in Karnataka.

Procedure for Admission of Students in Engineering colleges

Admission to I year engineering degree course is done through CET conducted by the CET Cell (now renamed as Karnataka Examination Authority) from 1996. The marks secured by the candidates in the CET and Pre university examination (in Physics, Chemistry, Mathematics subjects) were considered on a 50:50 basis and ranks are assigned to the candidates in order of merit. The seats are allocated through counselling. CET ranking and roster system form the basis for admission to government quota seats in all the engineering colleges.

Top rank holders in CET usually choose colleges that are considered to be good, based on public perception. Lower CET rank holders have to accept admissions in whichever college they are offered.

Curriculum

The VTU prescribes the curriculum for all engineering colleges in Karnataka except the University Visveswaraiiah College of Engineering, Bangalore and BDT College of Engineering, Davanagere. The AICTE Centre for Continuing Education and the Curriculum Development Centres publish material through printed and electronic media on several areas that are useful to teachers.

The VTU is also using the Edusat network in engineering colleges for direct broadcasting of lessons by reputed teachers.

Polytechnics

Out of 189 polytechnics, 38 belong to the government, 44 are private aided and 107 are unaided institutions. Of these, 7 government (including one residential polytechnic at Shimoga), 1 aided and 5 unaided polytechnics have exclusively been established for girl students. There are also 8 autonomous polytechnics functioning in the state.

The Karnataka State Board of Technical Education prescribes the curriculum for polytechnic courses in the state. The Technical Teachers' Training Institutes (TTTIs) produce and market textbooks and instructional material for polytechnic education.

Grants

The private aided institutions (both polytechnics and engineering colleges) are given grants to the tune of 85% of authorised expenditure every year. The 3 Fine Arts colleges have not been brought under the grant-in-aid code and ad hoc grants are released to them.

Non Utilisation of Capacity in Engineering Colleges and Polytechnics

The CET Cell makes admissions to government quota seats both in engineering and medical institutions in the state. In 2001, against a capacity of 34,900 engineering seats, there were 1,15,826 applications (60,093 from Karnataka and 50,733 from outside Karnataka). But an unutilised capacity of 3,566 seats remained. (Noteworthy was the huge demand in respect of IT related streams). The non utilisation of capacity has become an annual feature and in 2007 more than 3000 (including more than 700 seats in government colleges) seats remained unfilled. The government, however, continues to sanction more engineering colleges.

Admission to polytechnics is made centrally on the CET model. It is based on the marks secured in science and mathematics in the SSLC examination for all the courses. But for admission to Diplomas in Business Administration, Library and Information Science, Sound and Television, and Cinematography, the eligibility for admission is a pass in PU course. The following are the admission particulars of polytechnics for 2006–07 (30% of the seats are reserved exclusively for girls).

Table 12.4
Intake in Polytechnics

Type	Courses	Intake	Admission 2006 - 07
Government	213	10,026	8,823
Private aided	195	8,885	6,228
Private Unaided	440	19,125	16,235
Total		38,036	31,286

Source: Annual Report 2006 - 07

Thus, the capacity utilisation was to the tune of 82%. A substantial 18% of seats remained unfilled resulting in underutilisation of capacities. There is heavy dropout even at this level as only 20,262 (out of 30,000 admitted) appeared for the final year examination and 6,258 passed in 2006–07. The annual pass percentage in diploma courses is 30%.

Lateral Entry System

In order to provide higher education facilities to diploma students, a provision of lateral entry for has been made by providing seat reservation for such students in engineering colleges. The system provides direct entry to eligible diploma holders on merit cum roster basis to the III semester of the engineering course.

Community Polytechnic Scheme

This scheme has been introduced in 75 polytechnics of the state under the central assistance scheme. It provides for one-time non recurring grant of Rs 10 lakhs and recurring grant of Rs 7 lakhs per year per

institute. The scheme gives special attention to SC/ST and minority communities and provides for training to dropout youths in rural areas apart from helping them to be self employed.

These community polytechnics have been able to create awareness and educate, train and motivate the rural youth to use the technologies developed by research institutions and laboratories (e.g., drip irrigation, biogas plants, brick making, solar appliances, etc.). Similarly, short term non formal training courses are also offered to rural youth to provide basic skills aimed at self employment—Tailoring, TV servicing, electrical repairs, beauty care, etc.

A number of villages have been assisted by these polytechnics in repair and maintenance of agricultural implements and equipment and support services to enhance productivity. Information on new technologies, farm equipment, rural sanitation, family planning, child health, etc. is disseminated through leaflets, video films, brochures, exhibitions and so on.

Towards Improvement of Quality in Technical Education

The AICTE has prescribed norms and standards to be maintained in establishing and operating technical institutions both at degree and diploma levels.

The National Board of Accreditation (NBA) of the AICTE is vested with the authority to periodically assess the quality of technical education institutions as well as undergraduate and postgraduate programmes offered by them. The accreditation is based on a range of parameters including infrastructure, financial and human resources, industry-institution interaction, research and development. The institutions are also rated on a 4-point scale.

MHRD initiated a Quality Improvement Programme in 1971 with the objective of upgrading the qualifications of engineering college teachers by sponsoring them for postgraduate and doctoral courses. The teachers sponsored under this programme get full salary during the study period.

AICTE sponsors / conducts induction programmes for newly recruited teachers, short term courses for upgradation of knowledge and pedagogic skills. It also funds career awards, seminar grants and industry – institute interaction programmes.

Under World Bank assistance, the “Technical Education Quality Improvement Project” scheme has been introduced to improve the quality of technical education in the state. The total project cost is Rs 17,483.40 lakhs. Under this scheme, 4 engineering colleges have been identified as lead institutes and 10 engineering colleges have been identified as network institutes. The aim of this project is to enhance existing capacities in these institutions and promote them as centres of excellence in technical education. An amount of Rs 700 million was utilised under this project in 2006 – 07. The project could have achieved a greater degree of success had there been greater autonomy with the institutions.

Regional Technical Teacher Training Institutes (TTTIs)

MHRD has established 4 regional TTTIs at Bhopal, Calcutta, Chandigarh and Chennai with the aim of developing of polytechnic education in the country. These institutes undertake

1. Polytechnic staff development through long term and short term courses;
2. Design and revision of curricula of technical education and training courses;
3. Development of instructional materials;
4. R & D;
5. Extension and consultancy services.

TTTI, Chennai has an extension centre in Bangalore in the campus of S J Polytechnic to cater to the needs of polytechnic education in the state. The Department of Technical Education is also contemplating establishing a training college similar to that of TTTI Chennai to cater to the training needs of the teaching faculty of engineering colleges in the state.

Role of Private Sector in Employment

The private sector is the biggest employer of engineers and technicians and this trend is likely to continue due to globalisation and privatisation of the economy. The percentage employed in private sector ranges from 40–70% in respect of postgraduates and 50–90% in respect of graduates. As the private sector does not give any preference to students from the state, it is difficult to estimate the number of graduates employed from the state in the private sector.

The industry-institution interaction and placement services have benefited the students to a large extent in getting placements in the industry, sometimes even before the students complete the courses of study.

Apprenticeship Training Programmes

Students who complete degree/diploma in technical education are given an opportunity to undergo training in private and public sector undertakings as apprenticeship trainees for a period of 12 months. During this period, a graduate apprentice is paid Rs 1970/p. m. and a diploma apprentice Rs 1400/p. m. as stipend. Students who are studying in colleges and polytechnics are given training in supervisory development program and career guidance programme. The entrepreneurship program is aimed at motivating students by making them self confident and helping them to start their own industries.

Challenges in Technical Education

Even though AICTE has laid down norms in respect of infrastructure and staff and has set up the NBA for certifying engineering colleges, there are large areas of concern. The sub sector study report has analysed of the following areas of concern.

1. Lack of adequate infrastructure in the newly established private unaided colleges.
2. Varying quality of students at entry has impacted the overall quality. This also applies to students with lower levels of performance gaining entry through the capitation channel.
3. Even though AICTE has specified norms on the quality of curriculum, the current curriculum is subject based and supply driven, and not competency based.
4. There is shortage of teaching faculty to the extent of 25% and it is more pronounced in IT related courses. Recruiting good faculty and retaining them is a major problem on account of more attractive salaries and service conditions offered by the industry.
5. Poor quality of the existing faculty in engineering colleges and polytechnics is also another major issue—subject competence, teaching competence and professional competence are lacking in a majority of the teachers.
6. Majority of the teachers do not possess industrial/professional experience in their area of specialisation.
7. According to the survey, the student teacher ratio varies from 1:39 to 1:52 in this sector, whereas the norm is 1:15.
8. There is no organised training of faculty. Faculty development programmes including industry training programmes, IT training and teacher training are inadequate.
9. Quality monitoring is still an area of concern.
10. Hardly 30% of colleges use IT. Except for providing internet access to students, the penetration of IT in teaching is minimal in all the departments barring computer science.
11. The R & D activities in a majority of the colleges and polytechnics simply do not exist. There is no linkage between the institutes and industry in identifying problems of relevance leading to new materials/processes/products.
12. R & D in evolving new curriculum models, innovative teaching learning strategies and resources is simply not taking place.
13. Multiple control exercised by several agencies—the state government, the VTU, the AICTE, the CTE Cell—has contributed to the chaos in which the technical institutions find themselves in. The colleges do not have any autonomy whatsoever to pursue their academic programs.

Department of State Educational Research and Training (DSERT)

Historical Perspective

The Department of State Educational Research and Training, popularly known as DSERT, is the academic wing of the Department of Public Instruction in Karnataka. It aims at providing academic leadership in school education as well as working towards improving the quality of education provided in primary, secondary and teacher education institutions.

The DSERT had its origin as a small academic unit of the Department of Public Instruction. It was then known as the State Institute of Education (SIE), and it started functioning from the northern district town of Dharwar in 1964. It was later shifted to Bangalore and the other academic units of the Department of Public Instruction—State Institute of Science (SIS), State Educational Evaluation Unit (SEEU) and Educational Vocational Guidance Bureau (EVG)—were merged in 1975 to form a monolithic Department of State Educational Research and Training. Later the Teacher Education Administrative Unit was detached from the office of the CPI and integrated with DSERT.

The objective was to bring all the academic units of the department under one umbrella so as to coordinate all pre-service and in-service teacher training activities in primary, secondary and teacher education sectors. This also helped DSERT to coordinate its programmes and activities easily with other state and national institutions.

The Directorate of Text Books was attached to DSERT in 1983. This arrangement continued for more than two decades. Then, in order to streamline textbook preparation, printing, production and distribution, the Directorate of Text Books was detached from DSERT and converted into the Karnataka Text Book Society from June, 2006. The Government Text Book Press, Mysore, was also brought under the control of the society.

Creation of Infrastructure for DSERT

The DSERT which was functioning from the old building of Government Girls Junior College, B P Wadia Road, Basavanagudi, Bangalore, for the past several decades shifted to its own new spacious building on 100 feet Ring Road, Banashankari III Stage, Bangalore 560085, in the first week of February, 2003. This building, with a built-in area of about 50,000 sq ft, set in a one-acre plot, was constructed at a cost of Rs 4.3 crores. It is equipped with a 30 twin bedroom guest house and a canteen attached to it. This facility enables the participants of DSERT programmes to stay in the campus itself.

DSERT was formerly conducting training programmes through the video conferencing facility at Sri. Abdul Nazir Sab Institute for Rural Development (SIRD), Mysore and the C band receiving stations set up in all the DIETs in the state. It then set up an audio / video broadcasting studio in its premises in order to develop TV based video lessons for the Edusat project. The educational broadcasts are being done twice a day from DSERT, where ISRO has established a Ku band hub, uplink and broadcast facilities. Through this facility, direct-to-classroom broadcasts of video lessons are done to 1770 primary schools of Chamarajanagar and Gulbarga districts. Training programs through the videoconferencing mode, are now conducted from DSERT itself. The videoconferencing facility at DSERT has been linked to all the 27 DIETs and 202 BRCs which have Ku band receiving facilities.

The studio for the engineering college broadcasts under the Edusat project has also been installed by VTU at DSERT. This helps both the institutions to share the broadcasting facilities of the Edusat project.

Objectives of DSERT

The objectives of the department are:

1. To provide academic leadership in school education in the state;
2. To achieve qualitative improvement in school education through teacher training;
3. To promote action research in order to facilitate teacher development;
4. To undertake academic reforms in the light of policy changes by the state;
5. To take up periodical revision of curriculum and textbooks;
6. To co-ordinate at the state level, schemes of various state, central and international agencies—NCERT, NIEPA, UNICEF, DPEP, UNDP, SSA, RIE, IISC, etc.;
7. To undertake various projects in the field of education in collaboration with various agencies working in the field of education, including NGOs;
8. To administer teacher education in the state;
9. To act as a nodal agency in providing in-service training of both primary and secondary teachers and also teacher educators;
10. To prepare teachers' handbooks, resource books and other materials for use of students and teachers.

Structure of DSERT

DSERT is headed by an officer of the rank of Director of Public Instruction and is assisted by a number of officers heading the various units of the department.

1. Teacher Education Unit (TEU)
2. State Education Evaluation Unit (SEEU)
3. State Institute of Science (SIS)
4. Education Technology Cell (ETC)
5. SSA Training Unit
6. Adolescent Education Unit

Important Activities of DSERT

The important activities of DSERT include

1. Management of teacher education in the state (both pre-service and in-service education) both at the elementary and secondary education levels.
2. Management of government CTEs, DIETs and other government TTIs.
3. Preparation and revision of curriculum for various courses under the department of primary and secondary education.
4. Promoting science education in the state.
5. Procurement and supply of TLMs and resource books to schools.
6. Designing and implementing in-service teacher training courses in content, pedagogy, innovative methods like theatre in education, use of low-cost and no-cost TLMs in schools, etc.
7. Procurement and supply of colour TVs, audio and video cassettes, computers, CD ROMs, laboratory and library materials, maps, charts and models to schools.
8. Conduct of training programmes through teleconferencing and videoconferencing.
9. Reaching the students and teachers through direct TV broadcasts.
10. Implementing of several centrally sponsored schemes.

The structure and functions of the various units of DSERT are detailed below:

1. Teacher Education Unit (TEU)

Management of teacher education is one of the most important activities of DSERT. The TEU is in charge of administration of teacher education (both elementary and secondary—pre-service and in-service teacher education) in the state. It is headed by an officer of the rank of DDPI who is assisted by two Junior Class I officers of the rank of Senior Assistant Directors.

The TEU looks after the administration and academic supervision of DIETs and CTEs and all the pre-service teacher training institutions (both government and private) both at the primary and secondary levels. It also liaises with the NCTE, NCERT, NIEPA and the CAC for academic and administrative matters. It looks after all in-service teacher training programmes (other than SSA programmes) of both primary and secondary teachers in the state. The National Council for Teacher Education (NCTE) is the regulatory authority in granting recognition and fixing the intake of all teacher training institutions.

2. State Education Evaluation Unit (SEEU)

The State Education Evaluation Unit aims at bringing qualitative improvement in education both at primary and secondary levels. This unit is also in charge of all the activities formerly conducted by SIE and EVG unit. Its main objective is to improve the quality of school education and professional development of teachers by improving their competency in teaching and testing, effective use of evaluation techniques, preparation of standard question papers, unit plans and unit tests.

Previously, an officer of the rank of a Deputy Director was heading this unit. The Deputy Director's post was shifted from DSERT to the newly created Directorate of North East Karnataka in 2001. Subsequently, two officers of the rank of Senior Assistant Directors work independently and report directly to the Director.

The various activities of the unit are—publication of children's literature, conduct of NTSE, conduct of programmes in evaluation, population education, adolescent education, life skills and health awareness, etc. The monitoring of the recently introduced trimester system/semester system is done by this unit. English language training programmes to primary and secondary teachers are being conducted in collaboration with the RIESI, Bangalore. The X standard public examination reforms were also pioneered and pilot tested by this unit.

The unit conducts regular evaluation training for secondary teachers with an emphasis on the X standard public examination. Head teachers, teacher educators and subject inspectors as well as staff of DIETs and CTEs are also trained in evaluation techniques.

The unit takes up activities like analysis of X standard examination results, preparation and analysis of question papers, conduct of achievement tests and question banks in various subjects for the benefit of X standard students. The Head teachers of secondary schools with low results in the public examination are also given training through the CTEs to improve their school results. The unit has collaborated in developing national level standardised tests for the V and VIII standards in collaboration with the NCERT.

In collaboration with several national institutions like NIEPA, ISEC, etc., and state level institutions like IASE and also postgraduate departments of the universities, the unit arranges quality improvement programmes every year for teacher educators and staff of DIETs/CTEs.

The unit also arranges training programmes for teachers of elementary teacher TTIs (through DIETs) in special areas—essential/minimum levels of learning, multi grade teaching, integrated education, gender sensitisation, action research, etc.

Publication of Children's Literature

The unit takes up preparation and publication of children's literature. Workshops are conducted for talented children of classes VIII, IX and X and best literature produced by these children is selected and published.

Some of the children's literature published so far are—Makkala Kathe and Kavanagalu—Volumes I, II, III and IV, Vaignanika Kathegalu, Surya, Souramandala, Gilaki, Badami, Pattadakal, Aihole. The unit also procures and distributes a quarterly magazine Vignana Sangathi (published by the Kannada University, Hampi) to all the government secondary schools in the state.

In order to encourage the primary and secondary teachers and also teacher educators of TTIs to take up action research projects, prizes are awarded (Rs 1000/- each for 15 teachers) to selected teachers who have successfully taken up noteworthy action research projects in their respective institutions.

Educational Vocational Guidance

EVG training is imparted to secondary teachers to enable them to guide and help students to make a correct choice and take up suitable courses according to their aptitude and ability. 200 secondary teachers are trained every year in educational vocational guidance through a six day training program in CTEs. The unit also conducts elocution competitions for secondary school students in vocational guidance at school, district, and state levels and winners are awarded prizes.

The other activities of SEEU include preparation of training modules and conducting workshops on SUPW (Socially Useful and Productive Work). It deputes teachers for training to various programs conducted by CCRT and NCERT. Base line survey was taken up in SSA districts. The SEEU also facilitated the conduct of Education Task Force meetings and dissemination of their reports.

3. State Institute of Science (SIS)

The SIS was established for the promotion of science education in primary and secondary schools in the state. The main objective is to augment the standard of teaching and learning of science and mathematics at the school level and develop scientific attitude among teachers and students.

SIS conducts various activities to propagate and develop scientific temperament and to create interest in science among students and teachers. The unit prepares and circulates appropriate teaching-learning support materials for all schools, besides procuring and supplying scientific equipment under various state and national programmes.

SIS is headed by an officer of the rank of DDPI and is assisted by two officers of the rank of Senior Assistant Directors.

Establishment of Science Centres

To promote scientific thinking, attitude and temperament among students and the community, 224 science centres were established during 1998–1999. These are located in centrally located government secondary schools in each assembly constituency and have been equipped with the latest scientific and AV equipment.

To reinforce these centres and to achieve the desired learning objectives, the science teachers in these centres are given periodic training. The activities conducted here include orientation of science teachers from other schools, training in handling scientific equipment, arranging field trips for students, conduct of science exhibitions, science competitions, science quiz and science fairs which reach out to the community.

These centres aim at developing scientific attitude and eradicating blind beliefs in the community. Apart from motivating the children to learn science effectively through coordinating innovative programs, they aim at capacity building among science teachers to make the teaching of science more interesting and meaningful. These centres are supervised and monitored by the CTEs. An amount of Rs 20 lakhs is being spent annually on them for maintenance and conduct of various activities.

Activities of SIS

The SIS funds various science activities at the school, block, district and state levels, which are listed below:

1. Science seminar programmes for primary and secondary school teachers and high school students.
2. Science quiz programme for high school students.
3. Quiz master training programme for primary and secondary teachers.
4. Science club activities in secondary schools.
5. Science exhibition for secondary students – the students selected at the state level are taken to zonal and national level science exhibitions.
6. In collaboration with Karnataka State Council for Science and Technology, SIS conducts several “Scientists – Students Interaction Programmes” every year in different parts of the state.
7. Drama competitions in science are conducted in 224 science centers and the winners participate in the division and then state level.
8. Subject-based orientation training to secondary teachers in teaching of Science and Mathematics is being conducted in collaboration with the faculty from IISc, Bangalore.
9. Special science and mathematics training programmes for teachers of secondary schools in which results of the X standard public examination are low.
10. Training programs for science subject inspectors.
11. Training in use of science kits and scientific equipment.
12. Training in preparation of low-cost and no-cost scientific equipment.
13. Developing maps and charts in science in minority languages (Urdu and Marathi) and supplying them to schools.
14. Preparing teacher handbooks in science and mathematics.

Many of these programmes are conducted in collaboration with several organisations like, IISc, Karnataka State Council for Science and Technology, National Science Museum, Visvewariah Industrial & Technological museum, Center for Environmental Education, Planetarium, etc.

Centrally Sponsored Schemes

The SIS implements several centrally assisted schemes for improvement of science education in schools. Under these schemes, books in science and mathematics are procured and distributed to secondary schools in the state. In 2002 – 03, 1000 higher primary schools were supplied colour TV sets. In 2003 – 04, laboratory material, maps and charts were procured and supplied to secondary schools and science kits were supplied to 5000 higher primary schools during 2004–05.

Intel Science Discovery Fair

The chip manufacturer “Intel” has been organising “Intel Science Talent Discovery Fair” for secondary and higher secondary students every year in collaboration with SIS. The fair has been initiated to inspire students to push the limits of scientific ingenuity and share their discoveries with others. It aims at helping the students to take up projects which are innovative, original, research based and practical. Students who are selected in the State Science Fair conducted by SIS are also eligible to participate in the Intel Science Discovery Fair both at the national and international level.

4. Education Technology Cell (ETC)

To strengthen the technology support to schools, the ETC undertakes various academic activities through the effective utilisation of technology and media—Radio, TV, computers, audio and video cassettes, CDs, resource books and the direct broadcast of TV lessons under the Edusat project.

This cell was previously headed by an officer of the rank of Deputy Director. This post was shifted during the reorganisation of the department, when the posts of Divisional Secretaries in the KSEEB were created. At present, the Deputy Director, SIS is in charge of this cell. There are three officers of the rank of Senior Assistant Directors, one looking after the Mahiti Sindhu Programme and computer education, the second taking care of the training programmes done through teleconferencing—Keli-Kali and Bandani radio programmes, and the third being in charge of Edusat and other technology assisted programmes.

The CLASS Project

The project of "Computer Literacy Awareness in Secondary Schools" (popularly known as CLASS project) was implemented from 1984–85 and revised in the year 1993–94. The main objectives of this project are—

- (a) To provide students with a broad understanding of computers and its uses;
- (b) To provide hands-on experience;
- (c) To provide the students with skills to understand a range of computer applications.

The Computer Education Projects in High Schools

Computer education and computer based education has been taken up in 1000 government secondary schools from March 2001 under the "Mahiti Sindhu" project. It has also been introduced in 150 government secondary schools under the Revised Class Project, and 88 government secondary schools under the XI Finance Commission Project from 2003–04. Under the ICT @schools scheme, GOI has sanctioned computer education in another 480 secondary schools during 2005–06. Thus, a total of 1718 government secondary schools have been covered so far under the computer education programme.

Computer Education Projects in Primary Schools

The ETC in collaboration with SSA and APF started computer education in selected government higher primary schools of the state.

In 2001–02, the APF started computer education on its own in 35 government higher primary schools by providing hardware, software and teacher training. In 2002–2003 in collaboration with DSERT, the programme was extended to 55 selected higher primary schools and in 2003–2004, it was further extended to 135 higher primary schools in the state. SSA has sanctioned computer education in another 540 primary schools during 2005–06. The teacher training for all these schools is undertaken by the APF.

Supply of Geography Resource Books

Geography resource book (Bhoogola Sangathi Vol I), in Kannada and English, were prepared, printed and supplied to all the government secondary schools during 2002–2003 to provide additional resource material to teachers in teaching of geography. Bhoogola Sangathi Volumes II and III were brought out in Kannada and English in 2003–04 and distributed to the government high schools. These resource books have also been made available to the public through private printers. Teachers' resource materials were prepared in geography – (in English & Kannada) for secondary classes as well as in science, mathematics and English for primary classes.

Audio/Video Cassettes

Audio cassettes have been developed and distributed to schools to help children improve listening and speaking skills. Audio cassettes in English have been developed through RIESI, Bangalore. They have also been developed for standards III and IV children of Urdu schools.

Several video cassettes have been produced to help explain difficult concepts in science and other disciplines. These cassettes have been given to 224 science centres, established throughout the state. A 30

minute video film "Shikshana Sopana" containing the education minister's discussions with educationists, parents and teachers on topics of educational interest was prepared.

Under the Edusat project, DSERT has prepared more than 300 video lessons for the purpose of direct classroom broadcasting. Some of the video films have also been produced by Education Development Centre (EDC), Washington and given to DSERT for use.

Radio Programmes Promoted by ETC

As discussed in Chapter VII, "Keli- Kali" a radio lessons programme is being beamed from 10 stations of AIR to all the primary schools in the state. Karnataka is the only state in the country which is using the radio medium for distance education extensively and effectively throughout the academic year. EDC, Washington has also collaborated in a big way in this programme. It has also developed interactive radio lessons called "Chukki Chinna" which have become popular. These radio programmes, besides explaining difficult concepts to children, also provide direct resource support to teachers.

"Shikshana Samvada", a phone-in program is being aired every month from AIR, in which the Education Minister and senior officials of the department answer queries raised by the public regarding educational matters and programmes.

Teleconferencing

Formerly the teleconferencing programmes were being conducted from SIRD, Mysore. The education department had contributed Rs 30 lakhs towards establishment of the studio facilities at SIRD, Mysore. (Earlier, the DSERT faculty had to conduct teleconferencing from Ahmedabad). The receiving stations were located in 20 DIETs, some CTEs and BRCs.

This facility was being used in interacting with field functionaries, dissemination of information relating to important departmental programmes and also in training of master resource persons and teachers. After the launching of the Edusat project, Receive Only Terminals (ROTs) were set up by SSA in all the 27 DIETs and 202 BRCs in the state. Now teleconferencing programmes are conducted using the Edusat facility from DSERT studio.

Bio Diversity Register Programme

The Bio diversity register programme for creating awareness in students about bio diversity and environment was taken up in collaboration with Karnataka Pollution Control Board, IISc and Bharatiya Gnana Vignana Samithi.

Gender sensitisation programmes are also being conducted by the ETC for officers of the department, teachers and staff of training institutions.

5. SSA Training Cell

SSA entrusted the responsibility of conducting teacher training programmes for all elementary teachers in the state to DSERT. Under SSA, every primary school teacher in the state is to be given quality training for a minimum of 20 days in a year. Since this is an important programme, a separate cell was set up in DSERT in 2003 to monitor all the elementary in-service teacher training programs under SSA.

The Cell monitors the flow of training funds from DSERT through DIETs to BRCs. It plans various teacher training programs, prepares training modules with the help of classroom teachers and experts in the field, trains master resource persons and monitors the training programmes being held at district and block levels in a cascade mode. It also supports several studies and action research projects.

The Cell has done pioneering work in preparing training modules (Bahumukhi) for multi grade-multi level teaching situations prevalent in a majority of schools in the state. The Cell has further taken up work on preparing teachers' handbooks for teaching in various simulated multi grade situations. The cell is headed by an officer of the rank of Senior Assistant Director.

6. Adolescent Education Cell

Until 2004–05, DSERT was confining itself to training teachers and children in inculcating life skills. The School AIDS Programme was carried out by Karnataka AIDS Prevention Society. A decision was taken in 2005–06 to transfer the programme to the education department and DSERT was made the nodal agency. DSERT has set up a separate “Adolescent Education Cell” to take up this programme on a massive scale in combination with a life skills program. NACO (National Aids Control Organisation) and UNICEF are the other partners in this programme.

The primary objective of this cell is creating awareness both among teachers and adolescent children about development of life skills in children and awareness about the deadly AIDS disease through health education programmes.

The Cell is headed by a Senior Assistant Director and supported by a consultant provided by the Karnataka Aids Prevention Society. The steering committee is headed by the Secretary, Primary and Secondary Education.

The Cell has taken up translation of training material and awareness programmes for both teachers and teacher educators from 2005–06. The programme received a setback when there were protests against introduction of AIDS education in schools.

Improvement of Professional Qualification of Staff

The academic staff working in DSERT, DIETs and CTEs are being deputed to M Ed courses (on an average 30 per year) conducted by various universities in the state. This is being done to enable them to further improve their qualifications.

Some of the faculty of DSERT and DIETs are also being deputed on a regular basis to in-service courses conducted by national and state level institutions—NIEPA, CCRT, NCERT, ISEC, IIM, ATI and RIE, Mysore.

Resource Materials for Anganawadi Teachers

Preparation of resource materials for anganawadi teachers for the ECCE program was taken up in collaboration with the Department of Women and Child Welfare, Janashala Project and UNICEF. This is a unique program that has been adopted in Karnataka, wherein 42 themes have been developed and these are taught on a weekly basis throughout the year with the help of songs, stories, etc.

Collaborative Programmes of DSERT

National Population Education Project

Karnataka is one of the first states in the country to take up the cause of population education. Started in 1980, the project is being implemented in Karnataka through the SEEU with the intention of creating awareness among students, teachers and general public about the effects of population explosion (with a special emphasis on adolescent education).

The National Population Education Project focuses on achieving the goals of the project through group activities involving

1. Curriculum and material development;
2. Training;
3. Evaluation and research;
4. Cocurricular activities.

Adolescent education facilitates development of population education concepts among children. Training is conducted through specially prepared modules, folders, charts, handouts, etc. so as to enable them to

conduct a number of programmes in schools. Apart from training of Head teachers, conduct of cocurricular activities, interaction programmes and development of support material are taken up through this project which is funded by UNFPA and monitored by NCERT, New Delhi.

The state government is also supplementing the project by taking up three programmes under this project.

1. The Health Awareness Programme, implemented in collaboration with Bangalore Medical Services Trust (BMST), an NGO.
2. Life Skill Education Programme, implemented in collaboration with NIMHANS, Bangalore
3. Gender Programmes, implemented by DSERT, which has developed resource material for the purpose and has been conducting training programmes for administrators at different levels.

Integrated Education for Disabled (Physically Challenged) Children (IEDC)

This programme, which was earlier implemented through the Department of Social Welfare, was transferred to DSERT in 1983. The objective of this programme is to provide sufficient opportunities for the physically and mentally challenged children to join the mainstream in education.

The DSERT implemented the Integrated Education Development Scheme through 57 NGOs and 20 DIETs in the state. During 2000–01, 11680 special children were integrated through 2415 schools. This program was shifted to the Directorate of Urdu and Minorities in 2001–02, but is still being implemented through the DIETs.

Collaboration with RIESI, Bangalore

DSERT, in collaboration with RIESI, gets trainers and teachers trained in English language education on an annual basis. During 2004–05, a programme for training one teacher from every government primary school was designed and implemented.

The RIESI has specially prepared a 10 day training module along with a kit for training primary teachers in the teaching of English. The objective of this programme is to provide training and resource kits to every school so as to bring change in the classroom transaction.

The Institute also trains teachers in high schools for a period of 3 months and conducts short duration programmes for BRCs and CRCs.

The RIESI had established 3 primary and 2 secondary English Language Training centers (ELTCs) in the state. They were conducting short duration training for teachers. However, these centres have been brought under the control of DIETS/CTEs.

District Quality Education Project (DQEP)

The Social and Social Anthropology unit of National Institute of Advanced Studies (NIAS) implemented a new programme called "District Quality Education Project" (DQEP) to enhance the quality of elementary schooling by working collaboratively with various agencies of the Government. DSERT, DIET-Mysore, BEOs, BRCs, and CRCs were actively associated with the project. The focus of the project was Chamarajanagar district. Base line study was taken up between December 2002 and July 2003.

The project envisaged

1. Capacity building and collaborative activities by developing course modules and providing inputs for technical and academic development of CRC/BRC/ DIET/ TTI faculty, teachers and SDMC members which will further support quality improvement in schools;
2. Including orientation and training programmes involving community members and activity programs for children;
3. Material development for teachers, teacher educators, parents and children;

4. Research and documentation of all the activities which will serve as sources to share with other groups and institutions.

This project was supported by Sri Ratan Tata Trust, Mumbai. NIAS also collaborated with DSERT in developing the newly created DIET at Chamarajanagar as a model DIET.

EDC-assisted Distance Education Programme

EDC, Washington DC, an NGO promoted by US AID (United States Agency for International Development), included Karnataka for assisting implementation of distance education mode of learning. It brought in experts from the Discovery Channel and trained resource teachers in script writing and production of T V lessons. It also donated T V studio equipment to DSERT for production of T V lessons.

EDC developed a total of 60 high quality video programs to support the government's initiative in improving quality of learning. These programs are also being used by Edusat in broadcasting TV lessons directly to the schools.

Family Life, Values and Life Skill Education Programme

Bangalore Medical Services Trust (BMST) was established in 1984 by the Rotary Club of Bangalore and TTK and Co. Bangalore with a view to taking up health awareness projects and training in areas of blood safety and HIV / AIDS.

In collaboration with BMST, the DSERT has been conducting "Family Life, Values and Life Skills Education" Programme since 2000. This programme caters to government and government-aided primary, upper primary and secondary schools in 6 educational districts of Karnataka—Bangalore North, Bangalore South, Kolar, Chikkaballapur, Gulbarga and Yadgir.

The training programmes conducted by BMST empower teachers to inform and sensitise their students on issues such as HIV / AIDS, sexual health, reproductive health, sexually transmitted diseases, substance abuse and related values, and life skills.

The programme provides capacity building, teacher training workshops including refresher courses and follow-up action in schools. From 2006–07, these programmes have become part of the Adolescent Education Programmes funded by NACO.

National Talent Search Examination (NTSE)

Objectives of NTSE

The NCERT awards 1000 scholarships (with a provision of 150 for SC and 75 for ST) to talented students of X standard each year through its NTS scheme. In order to nurture the talent, it provides financial assistance in the form of a monthly scholarship of Rs 500/- which the awardees continue to receive up to Ph D level if they pursue their education in basic sciences and social sciences. If the awardees pursue professional courses in engineering, medicine and management, they receive the monthly scholarship up to the second degree level. The NCERT has entrusted the responsibility for the conduct of the NTS examination in the state to DSERT.

Performance of Karnataka Students

Karnataka is one of the very few states in the country whose students are doing extremely well in the NTS Examination. Nearly 45,000 students from the state appear every year. 295 get through the first phase of the examination and they are awarded scholarships from the Students Benefit Fund of the state. In the second phase, Karnataka candidates walk away with 10% of the 1000 scholarships awarded annually by NCERT.

First Phase of NTSE

The first phase of the NTSE is conducted by DSERT at 39 centres all over the state. This consists of a written test conducted in two parts—General Mental Ability or GMAT (consisting of 100 items on reasoning, analysis, synthesis, etc.) and Scholastic Aptitude test (SAT) containing objective type items from science, social science and mathematics of IX and X standards.

SAT consists of 100 questions. 40 are from social science (History, Geography & Civics), 40 from basic sciences (Physics, Chemistry, Biology) and 20 from Mathematics. All the 7 subjects are compulsory. There is no negative marking.

The first 295 candidates (Karnataka quota in 2006—selected on the basis of merit cum roster in this written test) are declared to have qualified for the second phase.

Second Phase of NTSE

The second phase of the NTSE conducted by NCERT consists of two levels—written test and interview. The written test is conducted both in English and Kannada media. The personal interview is held in Bangalore/Mysore for those candidates who qualify in the written test in the second phase.

Eligibility

A candidate can appear for NTSE only once. In order to be eligible, the candidate must be a student of X standard and must have secured at least 55% (in case of general category) and 45% (in case of SC/ST category) in the IX standard examination during the previous year. However, there is no prescribed age limit.

The scholarship is available for students at the +2 stage and subsequently, after suitable revalidation at every terminal stage. From 2006–07 onwards, children studying in VIII standard are also eligible to appear for the NTSE. Income limit for the award of scholarship has also been removed from 2006–07.

The candidates who are not awarded scholarships at the national level even though they have been successful at the state level receive a scholarship of Rs 150/- per month at PUC level out of the Karnataka SWF.

Issues Connected with DSERT

The DSERT was conceived to play the vital role of an academic leader for school education in the state. However, there are several constraints in the effective functioning of the institution, which are as follows.

1. Unlike NCERT, which is an autonomous body, DSERT is a government department and its officers are subject to transfer which affects continuity of programmes.
2. Unlike NCERT, there is no direct recruitment to posts of DSERT. There is no separate cadre for DSERT and other academic institutions like DIETs/CTEs/BRCs.
3. All posts are filled by transfers of persons (most of the times, having no academic background) from within the department. This has certainly affected the quality of work turned out by DSERT. Sometimes, the posts in DSERT/DIET/CTE have become rehabilitation posts for those found unsuitable in administrative posts.
4. The issue of unqualified staff being posted to CTEs and DIETs is still more serious as these persons have to handle classes in the preservice wing as well, which is definitely against the norms prescribed by the NCTE and universities.
5. Several areas in which expertise is required, are manned by non qualified persons which severely hampers the work of these institutions. Some of the areas that get affected are—action research, research in different aspects of school education, evaluation studies, field studies, statistical analysis, projections and forecasts of requirements, monitoring and evaluation of departmental programmes.

Observations by the Price Water House Coopers Report (2006)

The PWHC Report points out “The role of DSERT has over a period of time got diluted with DSERT having *administrative responsibilities* like providing administrative oversight on pre-service and in-service programmes and institutes, *academic responsibilities* like curriculum design, academic reforms and others, *programme management responsibilities* like Edusat, SSA funded training programmes, etc., and *other responsibilities* like procurement operations for ICT, DIET building construction, establishing and maintaining of Science Centres, etc.

- a. While the recent creation of the Textbook Society has reduced the DSERT’s administrative work, there is yet scope for improvement in other areas;
- b. With DSERT being visualised as the ‘Centre for Academic Excellence’, there is definitely a need for specialised resources, research capabilities and provision for networking with appropriate resource pool/ agencies and to provide thought leadership in the critical aspects of academic development. However, in its present form and function, the DSERT still falls short of playing the expected advisory role.”

Training Modules Developed by DSERT

DSERT has developed over a hundred modules for teacher training. Some of the important training modules are detailed below.

Chaitanya Tarani—(Training in use of TLM)

DSERT has developed a module “Chaitanya Tarani” to enable the teachers to understand the numerous possibilities available in preparation and use of TLMs out of low-cost and no-cost materials. The competencies of children can be developed better only through activities as they need a whole lot of experiences to enable them to learn. This results in the teacher trying to acquire the capacity to improve his classroom transaction through the use of innovative techniques and supplementary activities. This is where the importance of TLMs comes in.

However, literature available in the preparation and use of TLMs in Kannada is very limited. This module envisages filling the gap. It details how different types of TLMs can be prepared and used effectively in the classroom.

Learning is sought to revolve around the direct experiences of the child. Thus, the teaching- learning process revolves around various activities, situations, dialogues, discussion, dramatisation that the teacher can create in the classroom. Significantly, more than one lakh teachers have been trained under this programme.

Shikshanadalli Rangakale (Dramatisation in Education)

This is an innovative programme of DSERT, which helps teachers in the use of dramatisation techniques in the teaching/learning process. It involves story telling, play acting, mono acting, question – answer sessions, use of tableau, story boxes, activity-based story telling, use of various types of dolls, masks, crowns, effigies and several low-cost materials such that abstract concepts are concretised and that facilitates the child’s learning.

Teachers enable their pupils to strengthen their ability to listen, speak, question, answer, reason, describe, draw, write, analyse and develop other necessary skills. This also helps children learn to adjust while working in groups. Children learn to make objects out of play materials and in the course they pick up the art of working and learning in groups.

Through dumb acting (miming), they learn to identify objects, while the use of chain questioning and acting out of the sequences helps them describe or understand a situation/analyse a problem. Story telling through use of pictures helps children in lower classes understand abstract concepts. Story telling is also an effective tool when used with musical plays.

The techniques used through dramatisation help reinforce a child's competencies. One lakh LPS teachers have been trained under this program. DSERT has also brought out a teachers' handbook which can be used as a trainers' module.

Spandana/Sankalpa

Spandana is a training module which was prepared with an intention to train master resource persons who in turn train SDMC members, through the help of another training module called Sankalpa.

The objectives of this training are to enable.

- SDMC members to participate actively in the improvement of school education in the local situation;
- SDMC members develop an awareness regarding their role and responsibilities towards the school;
- SDMC members to receive comprehensive information about the programmes and policies of the department and implement them in their schools effectively.

On the basis of the experience gained and shared by the target group, this module is being refined periodically. This module was updated during 2003–04 and 2005–06.

Prerana (Foundation Course for Newly Recruited Teachers)

Induction training to newly recruited elementary teachers has been taken up in a big way. A module "Prerana" for a 2 week training programme in content, pedagogy, departmental programs, issues in primary education, etc., was prepared in collaboration with DIET-Mysore, and training sessions are held during summer/mid term vacations and all the newly recruited teachers have been trained from 2003–04. This programme is being conducted at the BRC level through the DIETs.

Sadhana Patha (Yoga/Value Education Training for Teachers)

Since yoga and value education were made an integral part of the curriculum and included in Part B of the trimester scheme, the need for a teacher training module was felt. The 10 day training module "Sadhana Patha" was developed to fulfil this need. It includes concepts in yoga, yogasanas, surya namaskara, pranayama, basic concepts in value education, and teaching methodology relating to these concepts.

Some of the other important training modules developed by DSERT are

1. Hongirana (module for elementary teacher educators)
2. Training module for SUPW
3. Parihara Bodhana Margadarshi and workbooks 1, 2 and 3 (remedial teaching module in collaboration with APF)
4. Anveshane (module for action research)
5. Arogya Jagruthi Shikshana (module on health education in collaboration with BMST)
6. Jeevana Kaushalyagalu 1, 2 and 3 (modules on life skills in collaboration with NIMHANS)
7. Chitralgalalli Charitre (a bilingual module on visuals of history)
8. Chitrakala Shikshana (a module for drawing teachers)
9. Sourabha (trimester training module)
10. Darideepa (module for career guidance)
11. Ankita (module on hard spots in mathematics)
12. Darpana (module on hard spots in science)
13. Bhoomika (module on hard spots in social science)
14. Kirana (module on hard spots in english)
15. Srujana (module for head teachers)

Chapter 14

Curriculum, Textbooks and Evaluation

The quality of the curriculum plays a vital role in contributing to the quality of education at all levels. Karnataka Education Act 1983 explains "Curriculum" as a set of curricular and co curricular activities arranged for a course of study. Further, the act entitles the government to prescribe the curriculum and review the same periodically through evaluation and assessment of societal needs. The state prescribes the curricula for all levels of education except at the university level where the respective universities are responsible. Most classroom teachers (despite their professional training) understand the term 'curriculum' as an expanded version of the term 'syllabus' and the textbook as its embodiment (the Bible). A major reason for this anomaly is that the curriculum design and development does not take place at the institutional level.

The EFA Declaration and Curriculum

The ultimate goal affirmed by the World Declaration on EFA (1990) is to meet the basic learning needs of all children, youth and adults. These needs were further specified as consisting of

1. Essential learning tools such as literacy, oral expression, numeracy and problem solving;
2. The basic learning content such as knowledge, skills, values and attitudes.

Towards fulfilment of these learning needs, the Declaration of EFA took a broad vision of basic education as consisting of formal schooling, NFE programmes as well as open learning systems which together attempt to provide basic education to all children as well as adults.

The EFA strategy also called for qualitative improvement in the content and processes of education to make them more responsive to the learning needs of individuals, families, community and development in different sectors of social and economic life. The state school curriculum largely meets the requirements of EFA with regard to formal schooling.

The scope of this chapter is limited to discussing curriculum-related issues pertaining to school education (including Pre university education) and teacher education sectors.

School Curriculum

The 10 + 2 + 3 pattern of education introduced in the country envisages a broad based general education for children during the first 10 years of education. Based on the guidelines of NPE 1986, the National Curriculum for Elementary and Secondary Education (1988) was framed to enable all learners up to the end of secondary stage to acquire basic skills. It may be noted that the curriculum at this stage is largely undifferentiated and no attempt has been made so far to introduce diversified courses. After the reorganisation of the state and before introduction of NPE 1986, the curriculum was revised by the state during 1958–59, 1970–71 and 1974–75. The revision in 1974–75 took into consideration the recommendations of the Education Commission (1964–65). After NPE 1986, it was revised twice in 1988–89 and 1999–2000. Revision of textbooks was taken up in phases spread over a period of several years.

The state revised its school curriculum based on the national pattern with modifications to suit the local needs. The concepts of child centredness, core elements and values, development of learning competencies, provision of learning experiences through activities were included in the state curriculum. The concept of competencies is discussed in Chapter VII on "Quality Issues".

Revision of the State School Curriculum (1988–89)

In August 1987, the state government constituted an expert committee headed by Prof. S R Rohidekar to revise the school curriculum and textbooks. The guidelines enunciated in NPE 1986 and the needs of the state were taken into consideration while carrying out revision in 1988–89. The curriculum was developed as a common scheme of studies for I to X Standards having class-wise parity with the national curriculum. The 10 common core elements and 84 core values stressed in NPE 1986 were also considered while revising the curricula and textbooks.

The Ten Core Elements

The 10 common core elements suggested in NPE are: the history of India's freedom movement; the constitutional obligations; the content essential to nurture national identity; India's common cultural heritage; egalitarianism, democracy and secularism; equality of sexes; protection of environment; removal of social barriers; small family norms and inculcation of scientific temper.

Subjects of Study

For academic purposes and planning of the subjects of study, the Committee headed by Prof. S R Rohidekar, considered the following internal groupings of classes:

1. Lower Primary Stage – I to IV standards;
2. Upper Primary Stage – V to VII standards; and
3. High School Stage – VIII to X standards.

The subjects included for study were

1. I to IV standards: Mother tongue, EVS, Mathematics, WE /SUPW, Art, Health, Value and Physical Education.
2. V to X standards: Three languages, Science, Mathematics, Social Science, WE /SUPW, Art, Health, Value and Physical Education.
3. English as a second language and Hindi as a third language were to be introduced from the V standard.
4. Science education aimed at developing certain abilities and values among students such as spirit of inquiry, creativity, objectivity, courage to question, etc. Students were expected to acquire observation and analytical skills, ability to use tools, understand basic scientific concepts, laws, and principles and apply them in solving problems.
5. Mathematics was visualised as a vehicle to train the child to think, reason, analyse and articulate logical thinking.
6. At the lower primary stage, the study of Social Studies (as a part of EVS) was aimed at developing an understanding of the physical environment in terms of time and space apart from appreciating the cultural heritage of India and the world as a whole.
7. At the upper primary stage, Social Science comprised the study of History, Geography, Civics and contemporary issues and problems.
8. At the secondary stage, Social Science comprised of History, Geography, Civics and Economics. The student was required to acquire the knowledge of contemporary India and the world.

The Objectives of the Subjects of Study

The objectives of teaching each of the subjects, according to NPE 1986 and the POA 1992, are

Table 14.1

<i>Subject</i>	<i>Primary Objectives</i>
<ul style="list-style-type: none"> • Languages (Mother Tongue, English, Hindi) 	To develop of linguistic skills and literary appreciation in languages.
<ul style="list-style-type: none"> • Science 	To develop certain abilities and values such as spirit of enquiry, creativity, objectivity, etc. To acquire skills such as problem solving and decision making through learning key concepts which cut across all disciplines of science.
<ul style="list-style-type: none"> • Mathematics 	To develop the ability to transit from functional mathematics to the study of mathematics as a discipline involving analysis and reasoning.
<ul style="list-style-type: none"> • Social Science (History, Geography, Civics, Economics) 	To promote understanding of contemporary India and the world.

Emphasis was also given to Art Education, WE, Health and Physical Education and promotion of values. Art Education was introduced as an important area of curricular activity for the development of the personality of the child. Health and Physical education were conceived as educating the child and the community in total health care.

Focus Areas of the Curriculum

The focus of the school curriculum at the primary (Lower Primary) stage is on development of basic skills of literacy and numeracy, study of environment in terms of physical and social phenomena, participation in activities which would develop productive skills, creative expression and habits of healthy living. In the initial years, the content and methodology are directed to achieve communication and computational skills with a view to developing basic tools of learning in the child. At the secondary stage the child tries to utilise, expand and build on all the capacities learnt during the elementary education stage.

An interlinking of education and culture was also envisaged for the child's personality development and understanding of India's natural and cultural heritage.

Focus on Minimum Levels of Learning (MLLs)

A national committee of experts set up by the GOI in early nineties evolved a framework of MLLs to be attained by every student undergoing primary education. It envisaged that these MLLs will act as a guide for teachers in ensuring that the teaching-learning process is effective and that the expected learning levels are attained by all children.

Curriculum Revision 1999–2000

Along with NPE, the Yashpal Committee Report and the subsequent National Curricular Frameworks were also being taken into consideration while periodically revising the state curricula and textbooks. Since the curriculum revision in 1989, several important developments had taken place in the field of elementary education. Textbooks for I to IV standards had been developed on the framework of MLLs. Due importance was also given to activities and joyful learning techniques. Nali – Kali concept of learning was developed by DPEP. Continuous and comprehensive evaluation came to be based on testing the competencies (acquired by the children) prescribed for I to IV standards.

Taking into consideration these innovations in the field of education and advancement in the field of science and technology, the school curriculum was again revised in 1999–2000. Importance was given to the production of textbooks based on MLL and learning outcomes. The textbook revision in the second phase was done between 2000–01 and 2004–05.

The revision also took into consideration the state's pre eminent position in the fields of information technology, bio technology and other allied fields. Care was taken to keep the curriculum and text books child centred. A number of successful practices in the field of education were incorporated in the revised textbooks: Nali – Kali practices, joyful learning, activity based methodology, child centred learning, DPEP experiments, continuous and comprehensive evaluation techniques, etc.

The curriculum and text book committees consisted of educationists and experts in the field of education along with classroom teachers. The drafts were presented in district and state level workshops conducted by DIETs/CTEs before educationists and teachers. The comments and suggestions offered were taken into consideration while finalising the curriculum and textbooks. Some of the text books were also field tested by introducing them for a year in selected educational blocks of the state and feedback was obtained, before introduction of the same in the entire state.

Salient Features of the State Curriculum

The revised curriculum was child centred, activity based and creativity oriented, resulting in the children's ever expanding circle of knowledge. The minimum competency levels of children were also taken into consideration while framing the curriculum and textbooks. At the primary stage, learning aimed at providing joyful experience to the child. Some of the salient features of the revised curriculum were –

1. The state follows the 3 language formula from the upper primary stage. The mother tongue or Kannada is introduced as First Language from the I standard. Equal status has been given to all languages—Kannada, English, Hindi, Tamil, Telugu, Marathi, and Urdu—for study as mother tongue. Importance is given to the communicative aspect in language teaching.
2. Under the 3 language formula, English was introduced as second language and Hindi as the third language from the V standard. When the primary cycle was extended to 5 years to include V standard, Hindi came to be introduced from the VI standard from 2003–04.
3. English has been introduced from I standard in all schools from the academic year 2007–08 and Kannada as an introductory language from I standard for students who opt for English as the I language.
4. Continuous and comprehensive evaluation based on competencies has been introduced in I to IV Standards.
5. No-detention policy has been introduced in I to IV standards.
6. Kannada has been introduced from III standard for non Kannada students
7. The MLLs in terms of competencies are the basis for textbook preparation in lower primary classes.
8. Facilities have been provided to study Sanskrit, Arabic, Persian and Konkani from the VI standard as a third language. Sanskrit is also offered as a first language in VIII, IX and X Standards.
9. The core subjects are made compulsory subjects of study and include General Science, Social Studies and General Mathematics.
10. Art/Craft and Physical Education are part of co curricular activities.

Some of the new concepts and practices incorporated in school curricula over the years are

- Activity based teaching
- Joyful learning
- Multigrade teaching techniques
- Correlating school to work

- Integrated teaching approach
- Improvisation of teaching aids and TLM
- Use of community and local resources
- Continuous and comprehensive evaluation.

Environmental Education in the School System

While revising its textbooks, Karnataka has taken a lot of care to green the textbooks in order to make the students aware of environmental concerns. Besides, the teachers in the 224 science centres have been trained to expose students, teachers and local community to environmental issues by organizing exhibitions, seminars, etc.

Karnataka is one of the 10 states in the country to have participated in the "Environmental Education in the School Systems" (EESS) project in 2004–05. Environmental issues have been infused in the school curriculum through the project. This has also been done with the GLOBE programme which consists of certain scientific protocols of environmental learning activities providing hands-on experience to the students. The GLOBE-trained teachers facilitate observing and exploring the environment as well as understanding related problems and issues through the greened textbooks. This program taken up in 100 schools in the state was executed in collaboration with the Ministry of Environment and Forests, GOI, Indian Environmental Society, and DSERT.

In tune with the Supreme Court judgement, the syllabus prepared by NCERT on environmental education has been adopted in preparing the state textbooks. Textbooks on EVS for I to IV Standard were revised in 2005–06, in collaboration with the Centre for Environmental Education. In the text books prepared for V standard on trimester pattern in 2005–06, Environmental Education has been included separately along with the other core subjects.

Inadequacies in the Present School Curriculum

1. The present school curriculum does not support teachers who are handling multi grade situations which is the norm in a majority of the government elementary schools.
2. From V standard, the core subjects are taught separately with a higher content base which makes it more difficult for general teachers handling multi grade classes.
3. The non availability of exclusive Hindi teachers has made teaching of Hindi in most government higher primary schools a mere formality.
4. The substantial gap in content level between VII standard of upper primary stage and VIII standard of secondary stage has not been bridged during curriculum revisions, which is a major hurdle in integration of VIII standard in the elementary education cycle.

The Trimester Scheme

1. As a part of the education reforms process in the state, the trimester scheme was introduced in all the schools from 2004–05. This scheme was welcomed by a majority of the stakeholders because
 - (a) It makes learning more meaningful as learning takes place continuously and throughout the academic year;
 - (b) It removes the fear psychosis about the existing system of examinations;
 - (c) It removes the habit of testing only the memory of the learner;
 - (d) The child is evaluated on the lessons learnt in a particular trimester so that there is no burden of memorising what has been learnt throughout the year.
2. Several innovative features such as evaluation of non scholastic areas, project work, oral testing of the child have been introduced which are all learner friendly.
3. Grading has been introduced to build systems for internal assessment and evaluation.

Due to pressure from a section of teachers, the trimester scheme was converted into a semester scheme for V to IX standards from 2007–08. Details of the trimester scheme are given in the annexure.

Promotion Criteria

No-detention policy is followed up to the IV standard, but the child has to put in a minimum of 75 % attendance for promotion to the next class. For V to VII standards four tests, one mid term and one annual examination formed part of the evaluation process in each class. In each of these tests and examinations, securing a minimum of 25 % in each subject, and a total of 35 % overall was necessary for a pass. If the child failed to appear for the annual examination, the marks scored in tests and mid term examination were considered on a 50:50 basis. The child was declared as passed if he/she secured 40 %.

After the introduction of the trimester scheme in V to IX standards from 2004–05, the promotion criteria were changed as follows: A student should have obtained a minimum of two C+ grades (out of three trimester tests) in every subject for promotion. Failure to meet this minimum requirement led to remedial teaching and a post test in the subsequent academic year in June. The result was declared on the basis of performance in the post test.

The trimester scheme was converted into the semester scheme from the academic year 2007–08. In the semester scheme, the student is required to obtain a minimum C+ grade in each subject in Part A for promotion to the next class. For students who cannot obtain the same the system of remedial teaching and the post test in June have been retained for declaration of results.

For the secondary stage, the schools are required to work for a minimum of 220 days in an academic year. 75% attendance is compulsory for all students. The head of the institution is empowered to condone 15 days shortage in attendance in case of valid reasons. The BEO is empowered to condone up to 30 days shortage in attendance for health reasons. In such cases production of a medical certificate is compulsory.

For VIII and IX standards, 4 tests, one mid term and one annual examination formed part of the evaluation process up to 2003–04. A minimum of 30 marks in each subject and 35 % average marks was necessary for a pass. If the student failed to appear for the annual examination for valid reasons, 50% weightage for mid term and 25% weightage for each of the tests was given for declaring the result of the student. The above promotion criteria stood revised with the introduction of trimester scheme from V to IX standards from 2004–05.

For declaring X standard results, the marks obtained by the student in the X standard public examination conducted by the KSEEB is taken into consideration. The student should have obtained a minimum of 30 marks in each subject and 35 % aggregate for a pass.

Pre University Curriculum

Procedure for Framing of PU Syllabus

The Department of Pre university Education is responsible for preparing the curriculum and syllabus for the first and second year Pre university classes. The syllabus is revised periodically (sometimes, but not always) in tune with the revision of syllabus in secondary schools. The department constitutes a coordination committee under the chairmanship of a distinguished educationist for syllabus revision. This committee frames broad guidelines for framing of syllabus and procedure for evaluation.

The department further constitutes sub committees for each subject. These committees examine the current syllabus prescribed in the particular subject at the secondary, pre university and degree levels as also the syllabus prescribed by the NCERT and neighbouring states, and prepare the draft revised syllabus in the particular subject. This draft is sent to different colleges that are selected on a random basis for discussion, suggestion and critical comments. The department also conducts divisional workshops in collaboration with the Principals/Lecturers' Associations for a critical review of the draft syllabus. The sub committees incorporate the feedback thus obtained after a thorough discussion and finalise the syllabi for the respective subjects.

In 2005–06, the department had completed the curriculum revision even before the NCF 2005 was prepared. Hence the PU curriculum needs further review in terms of the guiding principles of NCF 2005. The issue of huge wastage and stagnation at the PU level needs to be considered and courses have to be designed to address this critical issue. The curriculum should be so designed as to enable students to access a range of vocational jobs.

Selection of Streams and Combinations

A student has the option of selecting any 2 languages (out of 12 prescribed) for his study at the Pre university level. He has to select any one of the 3 streams – Science, Arts, Commerce – and 4 subjects in the stream.

Pre University Textbooks

The department brings out language textbooks only. These are prepared by the Text Book Committees. Each Committee has a chairman and 5 to 6 members. These textbooks are scrutinised and finalised by a scrutiny committee and are then printed and distributed by the Government Press.

In respect of core subjects, the department allows private publishing houses to prepare textbooks based on the syllabus prescribed by the department. Hence a number of quality textbooks are available for a particular subject in the market. The teachers in colleges can recommend a particular textbook of their choice to the students.

However there is flip side to this – the prices of textbooks published by the private publishers are exorbitant compared to the departmental ones. Thus there is a continuous demand from students and teachers for the department to prepare textbooks in all the subjects. This will help in bringing uniformity in content, quality and cost.

Teacher Education Curriculum

Revision of teacher training curriculum needs to be done periodically as and when the state revises the curricula of primary and secondary schools. It is also necessary to take into consideration the NCF as well as innovations and new practices being tried out at the school level. Some of the curricula like that of NTT have remained unchanged for several decades.

In the light of the constitutional mandate of EFA and the implementation of the state policy of UEE, the elementary student teachers have to be given the conceptual framework and training in various strategies to handle children (first generation learners belonging to minorities and various disadvantaged groups) who are mainstreamed through the enrolment programmes.

The sub sector study report on Teacher Education has examined the existing teacher education curricula and has concluded that the following objectives of the NCTE Framework are not properly focused in the teacher education curricula:

1. Promoting capabilities for inculcating national values and goals as enshrined in the constitution;
2. Transforming student teachers to become competent and committed professionals willing to perform identified tasks;
3. Developing competencies and skills needed to become an effective teacher;
4. Empowering teachers to cultivate rational thinking and scientific temper;
5. Development of managerial and professional skills in teachers.

The study report also notes that adequate importance has to be given to develop certain skills and capabilities among student teachers.

1. Content skills: capacity to collect, analyse, organise and apply information
2. Communication skills: speaking and listening effectively

3. Adaptability skills: solving problems and thinking creatively
4. Developmental skills and teamwork: working with community and negotiation skills
5. Influencing skills: workplace culture, effective leadership
6. Evaluation skills: competency based testing

Pre Primary (Nursery) Teacher Training Curriculum

As already stated, the NTT curriculum has not been revised for the past several decades. The duration of the course is one year. The curriculum consists of 4 theory papers covering philosophy, education, psychology and organisation (with a western thought bias), titled – Child Development, Methods of Child Education, School Organisation, Child Health and Nutrition. Not much importance is being given to early childhood care and education. In discussion on methodology – Lecture method and Herbartian methods are emphasised. Weightages given to practical approaches (like play way, story telling, communication and other non formal techniques) are inadequate for the stage.

In practice teaching, each trainee has to give 20 lessons. Crafts, preparation of play materials, rhymes are also compulsory. Play way methods are also employed while teaching. The latest initiatives like joyful learning, region specific folk literature, action songs, Shantiniketan approach are not included.

The use of play way methods in helping children to develop readiness to learn, and psychology of pre school children including special children are not given proper focus. The ratio of theory to practicum is 7:3 whereas the suggested ratio is 3.5:6.5. In short, it is one syllabus which requires urgent revision.

Primary Teacher Training Curriculum

The curriculum of the 2 year TCH course was revised in 2000–01 and the course was redesignated as “Diploma in Education (D Ed)”. This two year course is supposed to help a student teacher acquire a good knowledge of general educational theory and practical classroom transaction skills.

The objective of the revised DEd course is to

1. Prepare professionally qualified teachers for the elementary schools in the state;
2. Provide additional material through content enrichment to equip the teachers to develop a more thorough understanding of the subjects;
3. Enable the teachers to obtain content mastery through selection of subject groups.

The subjects prescribed are as follows:

Table 14.2

Subjects Prescribed for the D Ed Course

<i>First Year</i>		<i>Second Year</i>	
Edn. 1	Conceptual Bases of Education	Edn. 1	Trends in Modern Education
Edn. 2	Psychology in Modern Education	Edn. 2	Educational Management and School Organisation
Edn. 3	Curriculum Transactions	Edn. 3	Content Based Methodology I
Edn. 4	Content based Methodology	Edn. 4	Content Based Methodology II
Edn. 5	Practicum I	Edn. 5	Practicum I
Edn. 6	Practicum II	Edn. 6	Practicum II
Edn. 7	Health and Physical Education	Edn. 7	Health and Physical Education
Edn. 8	Work Education	Edn. 8	Work Education
Edn. 9	Content enrichment	Edn. 9	Action Research

Source: Curriculum for the D Ed Course

Deficiencies in the D Ed Curriculum

A detailed analysis of the actual content of the curriculum gives us an impression that it is a replica of the BEd curriculum albeit on a smaller scale. The DEd curriculum involves subject specialisation in two subjects at the elementary level and focuses on information oriented adult learning techniques like group dynamics, personality development, lecture method, models of teaching, adolescent psychology and a great number of western philosophies and sociological theories leaving behind Indian experiments and philosophy. Some of the major deficiencies noted in the curriculum are:

1. The ratio of theory and practicum (4:1 as per the curriculum) should have been maintained as suggested in the NCTE framework, i.e., 60% practicum and 40% theory.
2. Curriculum development needs to be appropriate to different levels of learning and provide for multigrade and multi level teaching situations existing in a majority of elementary schools in the state.
3. Since the evaluation system in I to IV standards is continuous and comprehensive in nature, the same should have been given more focus along with competency based evaluation.
4. Indigenous non formal techniques involving the community as envisaged in the NCTE framework are not given due importance.
5. New initiatives and approaches like Nali-Kali, joyful learning and activity based teaching methodology do not find significant inclusion in the revised curriculum.
6. Important issues in elementary education sector have not been given the needed focus.
7. The linkage with the pre primary stage does not exist.

It is not necessary for a primary school teacher to study in detail the various philosophies and theories of education. They can be totally dispensed with, or at best, condensed and limited to one paper. Instead, the following important and burning issues need to be introduced in the curriculum on a priority basis considering that it is the primary teacher at the village and classroom level who has the responsibility of implementing all programmes drawn up by the department.

1. Several important reports concerning elementary education—The Human Development Reports, The Reports of the Task Force on Education, Report of sub sector study on Elementary Education.
2. A comparative study of interventions in Karnataka and in other states.
3. Contribution of NGOs in the field of education.
4. Interventions taken up in Karnataka:
 - (a) DPEP and Janashala interventions
 - (b) H D Kote experiment—implementation of Nali-Kali methodology
 - (c) Involvement of community in our school system—Role of SDMCs in the effective functioning of the schools
 - (d) Karnataka School Adoption Program.
 - (e) Anganawadis and the ICDS scheme
 - (f) Gender issues—need for protective discrimination in favour of girls
 - (g) Education of children with special needs—inclusive education and IED scheme
 - (h) Education of children belonging to minorities and disadvantaged groups
 - (i) Mainstreaming of out-of-school children—Chinnara Angala Programme
 - (j) Regional imbalances in Karnataka—remedial measures undertaken by the government, focusing on educationally backward districts
 - (k) Addressing caste, religious, rural and regional gaps
 - (l) Implementation of SSA in mission mode
 - (m) Expansion of open schools system
 - (n) Addressing issues relating to equity in education

5. Evaluation, assessment and performance monitoring – The educational evaluation section has completely left out the various assessment programs that are necessary to test the quality of education—be it the child, the teacher, the school or the system, which are so much necessary to know the health of our education system.

The following points relating to teacher education curriculum and teacher training are worth noting:

1. There is poor integration of educational theory and supervised teaching practice. Teacher educators, especially in private TTIs, are not really aware of changes and new experiments in the field. Once the teacher educators enter service, there are no in-service training programmes for them, hence they are not aware of various academic programmes of the department. DIETs should take up training programmes periodically for all the teacher educators belonging to government, aided and unaided institutions and update them with the latest developments in the field.
2. After appointment, teachers trained in urban schools as well as one class one teacher atmosphere, end up in rural schools teaching multi grade classes. Hence, all the teacher trainees should be compulsorily sent to rural schools for at least 4 weeks to get the required experience.
3. Teacher training curriculum both in elementary and secondary teacher training institutions is rigid and outdated. It cannot support adoption of new methods. Pedagogy taught is unrelated to specific subject matter. There is urgent necessity to revise the DEd curriculum to make it more flexible and adapt it to situations in the field.
4. There is no necessary follow-up once the training is completed. This has to be rectified in the induction courses given to newly recruited teachers.
5. Teacher educators have limited education and are poorly prepared. For example, a BEd/MEd, graduate having secondary education experience and who has not taught in a primary school, suddenly becomes a teacher educator in a primary teacher training institute without having any knowledge of problems and issues at the primary education level.
6. The pre-service programmes, prepared by teacher educators with a very limited knowledge of the field, fail to take into account teachers' needs at the primary level.
7. Primary teacher education also suffers from lack of sufficient resource books and materials. They largely depend on poor quality guides.
8. The teacher training curriculum at the elementary level should have the following elements-
 - A solid foundation of the subject matter of the level for which the teacher is being prepared (both lower and higher primary);
 - An understanding of the children who are going to be taught;
 - Exposure to new teaching and assessment strategies;
 - Exposure to classroom management techniques;
 - Practice teaching in real field situations.

Secondary Teacher Education Curriculum

The curricula for the B Ed and M Ed courses are prescribed by the respective universities. Hence, there is a variation in curricula from university to university in terms of number of general papers, additional papers and internal assessment marks. The Bangalore University has 1400 marks for the one year B Ed course, the Karnatak University has 1600 and all other universities 1000. There is also a variation in terms of internal and external marks both for theory and practicals.

The Practicum in each method comprises of 3 stages.

- Effective demonstration lessons suited to the particular level;
- Adequate planning and supervised practice in real situations;
- Internalising skills through an internship programme.

The weightages given to theory and practice in the NCTE framework are not followed in the existing curricula. According to it, there are three broad areas.

- Foundation Courses (with 20–25% weightage for theory)
- Stage-relevant specialisation in two subjects (30%)
- Additional specialisation to give scope for latest developments in teacher education and practicum (40%) including internship (50%).

Issues in Secondary Teacher Education Curriculum

The secondary school curriculum is common throughout the state. Hence, the student teachers need to be prepared on a common curricular framework which obviously calls for a uniform curriculum at the B Ed level. The society today needs teachers who are not mere transmitters of information but transformers of students.

The syllabus being followed in the B Ed course is more than 30 years old. Also, there is no uniformity in the curriculum across various universities with respect to the number of general papers, methods papers and additional subjects. There is variation in the nature and duration of practice teaching. While some universities prescribe block practice, some have stray practice and some have simulated teaching.

The problem becomes even more acute as some universities have introduced the semester system in the already shortened academic year. This has resulted in every one, from the teacher educator to the student teacher, racing against time to complete the prescribed academic activities.

The B Ed examination conducted by the universities has also lost its credibility as the results are always 90% plus with a very high proportion of first classes. This is due to the abnormal weightage given to internal assessment.

Since some universities were awarding high internal assessment marks (one university giving 90% average internal assessment marks) the government was forced to prescribe a weightage of only 10% for the B Ed degree marks in secondary school teacher recruitment.

A uniform and updated B Ed curriculum in all the universities is also the need of the hour as the candidates who have passed the B Ed course from different universities will have to again take a CET with a uniform curriculum for appointment in government secondary schools.

In line with NPE 1986 and the Policy Perspective on Teacher Education, a revision of teacher education curricula at all levels was suggested. But the postgraduate education departments of universities chose to continue the old theory-based B Ed and M Ed curricula with little modifications.

Inadequacies in Practice Teaching

The current one year B Ed programme has several inadequacies. It is virtually a 10 month course but even this duration cannot be maintained due to various factors. The admissions by CAC are completed by November/December every year. This has an adverse effect on practice teaching as schools are unwilling to accommodate student teachers in the second part of the academic year with examinations fast approaching. As a result and due to lack of time and space, the practice teaching is rushed through in a 2–4 week period as a ritual.

Under the circumstances, the functions of teacher education and the cycle of curriculum transaction in methods—plan, correct, teach, feedback, re-teach—has almost become non functional. Since some of the universities follow the semester system, the duration gets further curtailed. The universities who are supposed to regulate the academic work of teacher colleges have become silent spectators. The concept of internship at the B Ed level has remained a distant dream.

The newly established secondary teacher education colleges do not have their own attached practice teaching secondary schools which effectively hampers the academic work (practice teaching sessions) of these colleges. In urban areas it has become an established practice to pay a hefty sum to private secondary schools for accommodating practice teaching of the student teachers.

The education departments of universities are unaware of field level realities. They look upon BEd as little more than a theoretical stepping-stone to the M Ed course.

The B Ed degree has become an omnibus degree as it is required for secondary school teachers, elementary teacher educators, education department officers, graduate teachers working in higher primary schools teaching VIII standard, etc. Hence, it should logically cover current pedagogical theories both at primary and secondary levels.

Greater scope is needed for development of professional and managerial skills and meaningful practice teaching. The curriculum also needs to incorporate latest innovations like joyful learning techniques, activity based teaching methodology, competency-based teaching, skill development in effective teaching, etc.

Issues Related to Curriculum in Secondary Teacher Training

1. Whereas primary and secondary school curriculum is periodically revised as per guidelines contained in the NPE 1986 and the Curriculum Frameworks prepared under it, the secondary teacher training curriculum (prescribed by universities) is not revised in tune with the curriculum revision in schools.
2. For getting better quality primary teacher educators, separate BEd/MEd courses in primary education must be introduced by all the universities. This is because, in respect of elementary TTIs, the faculty should have a minimum MEd degree as per NCTE norms. Since very few institutions in the country offer MEd (Elementary Education) course, the faculty complete BEd and M Ed courses pertaining to secondary education and become teacher educators in elementary teacher education institutions with no experience of teaching in elementary schools. Hence they confine themselves to teaching theory resulting in poor standards in student teachers. This situation needs rectification urgently.
3. Due to a mismatch of academic calendars between the teacher training institutions on the one hand and schools on the other, practice teaching has suffered fully. Schools are not willing to give classes for student teachers in the latter half of the academic year as they are under pressure to complete the portions. Efforts should be made to start classes in both the elementary and secondary teacher training institutions latest by 1 August every year.
4. There is lack of teachers to teach Geography in schools. Graduates who have not studied geography at degree level are constrained to teach the subject. This issue needs urgent attention.

Physical Education Teacher Training Curriculum

Recently, the state has converted the one year C P Ed course into a 2 year course in line with NCTE guidelines. But even here, the pedagogical aspects are covered in 3-4 papers in theory. Yoga has been given importance. Amplefield work is suggested.

The state has made physical education a compulsory subject for all classes up to IX standard. This should get reflected in the physical education teacher training curriculum. The physical education teachers have a tendency to give theory papers to school students asking for the dimensions of football/hockey fields, height of a basket ball ring, etc., without giving due importance to acquiring practical knowledge by actual participation in sports and games. The B P Ed curriculum, however, appears more balanced with a majority of physical education teacher educators expressing satisfaction.

The M Ed Curriculum

The structure of the M Ed course across universities is more or less uniform and variations are found only in the number of subjects prescribed for the course. The curriculum is essentially a theory-oriented one. Though it varies from university to university, it generally consists of 3 or 4 compulsory papers—Philosophical and Sociological Foundations of Education, Advanced Educational Psychology, Historical and Comparative Study of Modern Educational Institutions, Principles of Educational Research.

Similarly, the student has to choose 2 or 3 optional papers (depending on the university) out of the following subjects—Advanced Instructional Methodology, Educational Technology, Education Administration, Management and Finance of Education, Guidance and Counselling, Mental Hygiene, Education of Exceptional Children, Educational Statistics, Experimental Education, Methodology of Educational Research, Social Education, Curriculum and Teaching, Educational Planning. As can be seen, the practical orientation is almost absent.

An M Ed degree is a requirement for becoming a teacher educator at any stage. This essentially calls for exposure to ground level realities/ field studies which is not found in the curricula of any of the universities. There are many glaring inadequacies both in internal and external assessment. There is an urgent need to restructure the evaluation system at all levels of teacher education.

The Ph D degree in Education Program

The Ph D programme is a minimum of 3 years, with the first year of the course called the Pre Ph D course consisting of two papers – Content of the Subject of Research and Research Methodology. Now, the first year is called the M Phil course followed by 2 or more years of research work under a guide for completion of the Ph D program.

The P G departments take up sponsored research projects funded by UGC or other agencies. The PG Department of Karnatak University recently undertook the Evaluation Study of the DIETS/CTEs of Karnataka.

But generally neither the staff working in the postgraduate departments of the universities nor those working in the BEd colleges have any experience in school education at the field level resulting in a total mismatch of the theory-based training of these courses with the field realities.

The State's Language Policy

Salient Features of the Policy

1. The state is following the three language formula with Kannada being given primacy. Children have to learn Kannada compulsorily either as a first /second or as a third language.
2. The children learn in the mother tongue (Kannada, Urdu, Marathi, Telugu, Tamil, Hindi and English) from I to IV standards.
3. Those children whose mother tongue is not Kannada have to learn Kannada as an optional non examination subject in III and IV Standards. But they have to compulsorily learn Kannada as a second language from V standard.
4. Teaching of English as a second language begins from V standard.
5. Teaching of the third language begins from VI standard. Hindi/Kannada/Sanskrit/English can be learnt as the third language.
6. All languages taught as the first language have been given equal status.
7. The standard of second language and third language are prescribed as follows: For example, in X standard, the standard of second language is that of the standard of the first language taught in VIII standard. The standard of the third language in X standard is that of the standard of the first language taught in VI standard.
8. The following table shows the various language combinations that a student can take in upper primary and secondary classes.

Table 14.3

	First Language	Second Language#	Third Language* ***
A	Kannada	English	Hindi/Sanskrit
B	Urdu/Marathi/Telugu/Tamil/ Hindi/Sanskrit**	Kannada/English	English/Kannada
C	English	Kannada	Hindi/Sanskrit

Second language is introduced from V standard. But from 2007 – 08, English is introduced from I standard.

*Third language is introduced from VI standard.

** Sanskrit can be taken as a I language from VIII standard.

*** Arabic/Persian/Konkani can also be taken as third languages from VI standard

9. Students can choose to learn in any one of the following media up to X standard: Kannada, English, Hindi, Marathi, Tamil, Telugu or Urdu.
10. From the +2 stage onwards, the students have to choose only Kannada or English as medium of instruction. Hence, they have to master these two languages by the time they reach the higher secondary level. Clear guidelines are given to text book committees in preparing language text books.

School Textbooks—A Historical Perspective

Procedure for Prescribing Textbooks in the Nineteenth Century

With the development of an extensive education system in the nineteenth century in the erstwhile princely Mysore state, the government felt the need for good text books which had to be made available to the children at competitive prices. In 1868–69, for the first time, a series of elementary books in Kannada, English and Urdu, specially adapted for use in government schools, were prepared. They were printed at the Government Press and published at considerably lower rates.

The department also brought out other books like Amara Kosha, History of India, Euclid's Geometry, Arithmetic, Geography, Map of the World and India, Agriculture textbook in Kannada and Urdu. These books were supplied from a Central Book Depot at Bangalore through the district and taluk depots. At the same time, books published privately were also purchased in bulk and supplied to schools.

Constitution of the Text Book Committee

In 1892, a Text Book Committee was constituted as a consultative body to help the department in the selection and preparation of good textbooks. The Education Secretary was the ex officio 'President of the Committee' which had 27 members. This Committee appointed subcommittees for the various subjects which were grouped as follows—Kannada, Persian and Hindustani, Sanskrit, Telugu, Tamil, Science, Mathematics, History and Geography.

For high schools, the department had to prepare a list of selected books and circulate the list among schools and colleges. After obtaining comments from all concerned, the final list had to be published not later than 15 August every year. For every subject, more than one book was selected and the final selection of a textbook for the school was left to the discretion of the head of the school.

These textbook committees were reconstituted every 3 years. In 1932, there were 14 subcommittees pertaining to various subjects. These committees considered individual books and made recommendations to the Text Book Committee presided by the DPI. There was a fulltime secretary and another secretary for the Urdu subcommittee. In the 1950s, a state level committee (based on the state syllabus) used to select and prescribe textbooks submitted by private authors and publishers.

Establishment of the State Educational Research Bureau

The State Educational Research Bureau (SERB) was established in 1959 to bring uniformity and ensure quality in the prescription of textbooks to various classes. It performed the following functions.

- Preparation of curriculum, syllabus and textbooks;
- Preparation of teachers' handbooks;
- Conduct of workshops for textbook writers and evaluators;
- Preparation of children's literature;
- Improvement of quality of textbooks.

Nationalisation of Textbooks

Textbooks were nationalised in 1959–60 covering all textbooks from I to VII standards (in all the media) in the first phase. Subsequently the nationalised textbooks were introduced in all the classes, in all the subjects and in all the languages.

The SERB was entrusted with the responsibility for the preparation and production of all the nationalised textbooks. They were prepared by Textbook committees, printed at the Government Textbook Press at Mysore and published and sold on a "no-profit-no-loss" basis.

Establishment of the Directorate of Textbooks

A separate Directorate of Textbooks was established in 1969 and the SERB was merged with it. The Directorate had the following branches:

1. State Educational Research Bureau
2. Textbook Committees periodically constituted for various subjects
3. The Government Textbook Press, Mysore

The Directorate of Textbooks provided academic guidance in curriculum, academic reforms, monitoring and evaluation, etc. With the post of the Director of Textbooks being abolished in 1983, the Textbook Directorate was attached to DSERT and the management of the Textbook Press at Mysore was handed back to the Director, Government Press. The Director, DSERT also acted as the ex-officio Director of Textbooks. Private sector participation was introduced for the first time in printing and distribution of text books in 1993–94.

Apart from school textbooks, as a path breaking venture in the country, the Directorate brought out standardised text books for various forms of music and dance for all levels of examinations.

Establishment of the Karnataka Textbook Society

With a view to bringing all the activities of preparation, printing, publishing and distribution of textbooks from I to X standards under one umbrella, the state government took a policy decision to convert the Directorate of Textbooks into a registered society (on the pattern existing in several states) from 2006–07 and the post of the Joint Director in DSERT was upgraded to that of a Managing Director. Necessary funds were also provided in the budget for this purpose.

The Managing Director is assisted by an officer of the rank of Deputy Director of Text Books. There are 5 officers of the rank of Senior Assistant Directors and 4 officers of the rank of Assistant Directors who are in charge of preparation and production of textbooks in various subjects.

The Karnataka Textbook Society is in charge of preparation, production and distribution of textbooks for standards I to X. The Society prepares the syllabus and textbooks for special courses in DEd, Physical Education, Music, Dance, Drama, SUPW, Commerce, Drawing, Sanskrit, etc. It also prints textbooks for the Pre university Board.

Revision of Textbooks

Based on the revised curriculum under NPE 1986, new textbooks were introduced in phases for standards I to X, during the period from 1989–1990 to 1994–1995.

1. I and II standards	1989–1990
2. III, V, VIII standards	1992–1993
3. IV, VI, IX standards	1993–1994
4. VII and X standards	1994–1995

After the curriculum was revised in 2000 – 01, textbook revision took place in phases from 2000 – 01 to 2004 – 05. These revised textbooks were based on the philosophy of making learning joyful for the child. A number of successful practices in the field were incorporated—Nali-Kali practices, activity based methodology, child centred learning, etc.

1. I and II standards	2000–2001
2. III, IV, V standards	2001–2002
3. VI and VIII standards	2002–2003
4. VII and IX standards	2003–2004
5. X standard	2004–2005

In order to improve the quality of textbooks, some were field tested in 4 education blocks (one each from each of the 4 divisions). They were refined based on the feedback from teachers, parents and students and the revised ones were then introduced in the entire state.

Production of Textbooks

Every year, the Society brings out 308 titles of textbooks from I to X standards in eleven languages—Kannada, English, Marathi, Telugu, Tamil, Hindi, Urdu, Sanskrit, Konkani, Persian and Arabic. The Society also brings out textbooks in core subjects in 7 media (English, Kannada, Tamil, Telugu, Marathi, Hindi and Urdu). Every year these textbooks are reviewed, updated, edited and reprinted. Nearly 10.2 million children receive them every year and the print order is nearly 55 million copies.

Textbook production is a complicated process which requires a lead time of one year for preparation. The 308 titles from I to X standards are divided in different packages and tendered as per the Transparency Act. The Executive Committee under the chairmanship of the CPI supervises the tendering process and monitors the printing and distribution of textbooks.

Supply of Free Textbooks

Free textbooks are given to all children (about 66 lakh) studying in government schools from I to X standards. SSA is further funding the free textbook scheme for all girls and SC/ST boys studying in I to VIII standards of aided schools from the academic year 2007–08.

The National Curriculum Framework (NCF) 2005

Salient Features of NCF 2005

The main features of the NCF 2005 are strengthening a national system of education with special focus on

- Values enshrined in the Constitution of India;
- Reduction of curriculum load;
- Ensuring quality education for all (EFA);

- Systemic changes;
- Common school system.

The NCF 2005 has recommended 5 guiding principles for curricular development.

1. Connecting knowledge to life outside school;
2. Ensuring that learning shifts away from rote methods;
3. Enriching the curriculum so that it goes beyond textbooks;
4. Making examinations more flexible and integrating them with classroom life;
5. Nurturing an overriding identity informed by caring concerns within the democratic polity of the country.

Apart from these 5 guiding principles, NCF emphasises on learning without burden the concepts containing construction of knowledge. Some of the important concepts emphasised by NCF are

- Correspondence between learner development and learning is intrinsic to curricular practices.
- Knowledge is different from information.
- Organising learning experiences for construction of knowledge and creativity is crucial.
- Connecting knowledge across disciplinary boundaries is necessary for insightful construction of knowledge.
- Learning experiences for developing critical perspectives on social issues are to be provided.
- Plurality of textbooks and other material incorporating local knowledge are to be mediated through constitutional values and principles.

It has also recommended significant changes in all 4 areas of language, mathematics, science and social sciences with a view to making education more relevant to the present and future needs. It has advocated softening of subject boundaries to enable children get a taste of integrated knowledge and the joy of understanding. The fact that knowledge is constructed by the child implies that curricula, syllabi and textbooks should enable the teacher to organise classroom experiences relating to the child's nature and environment.

The NCF 2005 also speaks of Curriculum Review and Textbook Revision in the context of "Learning without Burden". In fact, the Department had issued a comprehensive circular in 2003 incorporating some of the salient points of the Yashpal Committee Report to reduce the burden on children. The concept needs to be given further importance in curriculum and textbook revision.

Some of these points have been incorporated when the trimester scheme was introduced in the state about 2 years back. Under this scheme, the state has already adapted the grading system in place of marks for assessing both scholastic and co scholastic abilities of students.

Salient Features of the State Curricular Framework

On receiving the NCF 2005 document, a committee headed by the author and comprising academicians, subject experts and classroom teachers was set up to review the NCF 2005 and draft a state policy framework which would form the basis for revision of curriculum and textbooks. This committee also considered the NCF 2005 in the state specific context and came out with a Curricular Policy Framework and guidelines which would help various subject expert groups in curriculum and textbook revision.

The next step was to review the subject-wise syllabus in the light of these two documents and suggest changes in the syllabus. The reviewed syllabus was to be again placed before the academicians and classroom teachers for feedback. The final step was to entrust the work to the textbook preparation committees to prepare the individual textbooks as per the guidelines evolved and the revised syllabus. The recently formed Karnataka Text Book Society was entrusted with the actual task of preparing the individual textbooks.

The Committee felt that a lot of care and caution needed to be exercised in the revision of the curriculum and textbooks. The revised draft syllabus was to be disseminated right up to the school level, the opinion of all the stakeholders obtained and the finalised syllabus given to the textbook preparation committees for writing textbooks. Similarly, the textbooks thus written were to be field tested for one year before finalization and introduction in the entire state.

The Committee considered all these aspects and suggested the following tentative time lines for curriculum and textbook revision:

1. Preparation of State Curricular Policy Framework	2006-07
2. Revision of Syllabus for I to X Standards	2007-08
3. Textbook Revision I, III, V & VII Standards	2008-09
4. Textbook Revision II, IV, VI & VIII Standards	2009-10
5. Textbook Revision IX and X Standards	2010-11

Major Issues in School Education

The Committee felt that the major issues faced by the state in school education should be taken into consideration while revising the curriculum and textbooks. Some of the issues highlighted by the committee are listed below.

Contextualising the school education to suit the changing multi cultural scenario of the country in general and the state in particular is needed. The revised curriculum will have to be made more relevant to the younger population which has stepped into the twenty first century. The fact that learning has become a source of burden and stress on children and parents is an evidence of the deep distortion in the aims and quality of education. Every year we hear of student suicides before the public examinations and after announcement of results. Another serious problem facing the state is the issue of dropouts at the upper primary and secondary levels which has been discussed in detail in Chapter VI (Elementary Education).

The next important issue is the pass percentage in the X and XII standard public examinations which indicates a large amount of wastage and stagnation in the secondary education system. A majority of students who pass and pursue higher education opt for arts and commerce streams. The performance of students in English, Mathematics and Science is a cause for grave concern. In view of this fact, redesigning the curriculum in the concerned subjects is needed.

The Committee also considered the following questions: Should the curriculum and textbooks reflect the aspirations of 10% of children who enter higher education or should we also keep in mind and give adequate weightage to the requirements of more than 84% of children who drop out of the system. New employable avenues have to be explored from VIII standard level itself for those who fail to go beyond X standard. We should also address concerns of first generation learners, children of weaker sections, dropouts, etc.

Recommendations of the State Curricular Framework Committee

The Committee reiterated some of the major recommendations of the NCF 2005. It felt that the curriculum revision also need to consider the following points.

1. Apart from a review of the current educational scenario in the state, the curriculum has to be reviewed under the framework of NCF 2005 in the light of state-specific issues.
2. A move towards competency-based assessment from the present content-based testing is necessary.
3. The issue of introducing vocational education at the secondary level needs to be addressed.
4. Local specific textbooks, at least in language and environmental sciences, in elementary classes, need to be brought out.

5. Various issues such as guidelines for project work in each subject, prescribing the number of science experiments for each class, need to be addressed.
6. Computer connectivity to every school is to be ensured.
7. Curriculum, syllabi and textbooks have to be framed as per the state's language policy and the three language formula.

As far as the learner and his needs are concerned, the committee felt that.

1. The revised curriculum will have to focus on learners' needs, capacities and limitations in the process of learning.
2. The revision has to address the concerns of students who drop out after X standard or go to arts and commerce streams.
3. Even though VIII standard is considered a part of the elementary cycle, the reality is that VIII standard continues to be a part of a vast majority of secondary schools in Karnataka. Hence, the revised curriculum has to acknowledge this aspect and the syllabus for VIII standard has to be prepared accordingly.
4. The curriculum will have to provide space for the non formal and open school systems as some children cannot continue formal education beyond a particular level for various reasons.

Assessment of Children

Assessment of children is through competency based continuous and comprehensive evaluation in I to IV standards. No-detention policy is followed in these classes. Assessment and promotion of children in standards V to IX is through the evaluation and grading as per the semester scheme and informal assessment of non scholastic subjects. The Committee felt the need to consider the following points.

1. The assessment system has to be fine-tuned. Equal emphasis has to be given both to process and product evaluation. Similarly, there should be emphasis on oral and written tests as well as observation (To be marked on an observation schedule).
2. Apart from the above school level assessment procedures, KSQAO will conduct annual assessment of children and schools to assess the learning levels of children in various classes.
3. The public examination at the end of X standard is retained as it suits the state's needs better.
4. A system has to be developed to assess the school as a whole on a school-quality index. This will help to grade schools and motivate them to aim for higher grades in subsequent years.
5. A format for self assessment of teachers will help a majority of teachers to aim for self improvement.

Courses of Study

The aim of school education is to provide general education in basically four curricular areas: the languages, social science, science and mathematics. An attempt has been made in the curricular framework to provide guidelines for selection of content by the respective syllabus committees up to the secondary level.

1. The syllabus committees will have to redefine the objectives of teaching each of the subjects as per the guidelines contained in the NCF 2005.
2. Co scholastic activities have to be provided more space to help learners acquire the necessary life skills and creative abilities.

Curriculum Transaction

The nature of curricular transaction is critical to developing competencies. The committee thus felt that a shift in focus is needed. The following points were to be considered.

1. The curricular revision has to ensure that the nature of curriculum transaction in the classroom shifts from rote methods to experiential learning and connecting knowledge to life outside school.
2. The focus must accordingly shift to "how to learn" from "what to learn". This will have a strong bearing on teacher preparation, teaching-learning material, resource support, classroom supervision, and assessment mechanisms. The teacher will have to transform himself from a supplier of knowledge to a facilitator and guide.
3. Teaching should not be restricted to presentation of information. Instead, teachers should take on an active role in the process of knowledge construction among children.
4. Teachers should follow methods that encourage critical thinking as critical pedagogy provides an opportunity to reflect critically on issues, in terms of their political, social, economic and moral aspects. Students should be encouraged to recreate the knowledge as it facilitates collective decision making through open discussion and by encouraging and recognising multiple views.

Vocational Education

The revised curriculum has to take into consideration the requirements of not only children who pursue higher education, but also of a vast majority of children who drop out at lower levels or fail to pass out of X standard. The Committee thus felt the need to lay emphasis on the following points.

1. Vocational subjects as per the local needs have to be introduced from VIII standard so that new employable avenues are created.
2. Necessary resources for infrastructure development for teaching of vocational subjects are to be provided to schools. Local talent and resources may be tapped for the purpose.
3. The syllabus for vocational education at the secondary level has to be designed in consultation with the Directorate of Vocational Education.
4. Teaching of vocational subjects may be outsourced. For example, computer training institutions can be roped in to impart computer education.
5. Schools need to tie up with local field departments like – agriculture, horticulture, employment and training, industries, etc. to provide practical experiences to children.

Quality in Education

Many factors contribute to the quality of education such as a good curriculum, quality textbooks, suitable infrastructure facilities, teachers and teaching. The Committee emphasised that

1. The quality dimension needs to be examined with respect to the experiences designed for the child to acquire the necessary knowledge and skills.
2. Quality in education must include a concern for quality of life in all its dimensions including concern for peace, protection of the environment and a predisposition towards social change.

Teacher Education

1. The curricular policy must examine the relevance of the present teacher preparation programmes both at elementary and secondary levels in the light of curriculum revision.
2. There is an urgent need to revamp the teacher education programme at these levels (including pre service and in-service programmes) to help teachers understand the philosophy behind curriculum revision and train them to acquire additional skills to improve classroom curricular transaction.

Guidelines for Curriculum Revision

Apart from the 5 guiding principles enunciated by the NCF 2005, some of the important issues to be considered during curriculum revision are listed below.

1. The 3 important school stages—Lower primary stage, Upper primary stage and the Secondary stage are to be kept in view.
2. Appropriate linkages and continuity between these stages to be provided to ensure the child's smooth transition from one stage to the next.
3. Syllabus framers to ensure appropriateness of topics, themes and difficulty levels for the relevant stages of children's development from a psychological point of view.
4. Providing information for information sake to be avoided as far as possible.
5. Linking of school knowledge to children's everyday experiences and building on them.
6. Integrated approach and inter disciplinary and thematic linkages between topics to be maintained in core subjects.
7. Reflect sensitivity to gender, caste and class parity, peace, health and needs of different categories of children.
8. The needs of different types of children—the gifted, the average, the slow learners, the physically challenged and children with learning disabilities—are to be taken care of.
9. Environment related knowledge, proper integration of work-related attitudes and values to be included at appropriate places.
10. Nurture aesthetic sensibility and values by integrating the arts and India's heritage at appropriate places in the curriculum.
11. Ensure that the curriculum and textbooks provide for sufficient flexibility and allow space for creativity to different types of teachers to handle classroom transactions more efficiently.

Guidelines of the Committee for Framing Subject-wise Syllabus

The syllabus gives guidelines for textbook writers in terms of the objectives, content and scope, apart from outlining the variety of learning experiences to be provided to the children. Hence, the Committee recommended the following guidelines for framing the subject-wise syllabus.

1. Aims & objectives of teaching a particular subject and a particular topic should be highlighted.
2. The scope of the content is to be determined according to the level of the class. The content should specially be provided under units and sub units.
3. The number of hours required for completing the units/sub units should be specifically mentioned. This will enable the textbook writers and classroom teachers to understand the scope and depth of the content to be taught.
4. While framing the syllabus, care should be taken to see that overlapping with respect to theme or core elements and ideas is minimised.
5. In languages, selections of eminent personalities, national leaders, scientists, poets and literary scholars to be done in a holistic manner to avoid repetition of matter.
6. While framing the syllabus, specially at the lower level, there should be provision to cover information about local culture, environment and leaders gradually bringing in national and global perspectives at higher levels.
7. The syllabus writers should stress on integrated and concentric approaches so that text book writers can develop textbooks accordingly.
8. The syllabus for each subject should be provided under a fixed format. An example is provided below.

Table 14.4

Questions	Key Concepts /Issues	Suggested Resources	Suggested Activities
Broader Areas 1. Family and friends 1.1 Relationship 1.2 Work and play 1.3 Animals 1.4 Plants 2. Food 3. Shelter 4. Water 5. Travel 6. Things we make and do			

9. The syllabus should give an indication of the presentation of activities, experiments, illustrations, scope for integrating values, etc.
10. Syllabus and textbook writers should be given training in technicalities of framing the syllabus and textbooks.

Integration of Culture Education in School Curriculum

The Central Advisory Board of Education (CABE) has recommended integration of culture education in school curriculum. The main issues are

1. Enhancing the quality of cultural awareness among children;
2. Introducing the learning of our traditional, folk, classical and contemporary art forms;
3. Helping students to appreciate the world of arts, music and literature.

The school curriculum should be flexible enough to allow learning to be made culture sensitive. Local resources, folk art forms, practices, places, institutions, festivals, rituals, artifacts and literature must be covered. Local artists, musicians, painters, writers, story tellers could be guests to impart culture education in schools.

Teachers should be trained to use these local resources and textbooks must have illustrations reflecting the local culture. The children should participate in group activities such as singing, dancing, role play, amateur dramatics, story telling, description of pictures, etc., to understand the local culture.

In Karnataka, some initiatives have already been taken in this regard. Several thousand teachers have been trained in using dramatics as a teaching technique—"Shikshanadalli Rangakale". All teachers should be trained in phases to help them expose the students to culture effectively.

Learning of Languages

NCF 2005 has recommended recognition of the child's mother tongue while encouraging proficiency in English. This is possible only when learning is built on a sound language pedagogy. Reading, writing, listening and speech contribute to the child's progress in all curricular areas. NCF lays emphasis on reading throughout the primary classes so as to give every child a solid foundation for learning of other subjects also.

Any child with average intelligence can pick up a language, provided it is taught effectively. Experiments across the globe have proved that children can master a minimum of 6 languages between the ages of 5 and 15 when their language acquiring ability is at its peak.

The basic learning competencies for languages have been defined as listening, speaking, reading, writing and comprehension of ideas. Several studies and experience show that a majority of children do not acquire the expected proficiency (basic learning competencies to be mastered by every child) of their respective classes in languages. Thus, textbook writers must note this point while writing textbooks as per the revised curriculum.

Further the curriculum revision and textbooks writing must be in accordance with the state's language policy. Equally important is that there should be a clear difference in levels of textbooks for first, second and third languages for any particular class.

Learning of English

English occupies the position of the second language in India and is an all important language for communication. Strangely, there is no mention of a second language in NCF 2005. It may be generally presumed that English is taught as a second language. The state has taken a welcome decision of introducing English as a second language from I standard from 2007–08. At this stage, rather than preparing text books for students, importance has to be given to preparation of a comprehensive handbook for teachers and workbooks for students. More importance needs to be given to spoken English in I and II standards.

Unfortunately, the competence of English teachers in the state at all levels is far from satisfactory. We need competent teachers, good teaching materials and effective methods and techniques of teaching English. Extensive training has to be designed for the lower primary teachers who are handling the language at these levels. Since the state is following the three language formula with primacy for the child's mother tongue (I language), separate guidelines need to be evolved for curriculum revision and textbook preparation for the I, II and III languages as these are introduced in different classes.

Learning of Mathematics

Relevance of Mathematics education in the present-day society that is characterised by extraordinary, accelerating change can hardly be overemphasised. Individuals who can understand and apply Mathematics are likely to have significantly better career opportunities and choices in the upcoming knowledge society.

The learning of Mathematics should enhance the child's ability to think and reason, visualise and handle abstractions as well as formulate and solve problems. These aims can be covered by teaching relevant content in Mathematics through a child's experience. Relating mathematical concepts to other subject areas should be explored by the teachers.

The twin concerns of the Mathematics curriculum are: What can Mathematics education do to engage the mind of every student, and how can it strengthen the student's resources? Curriculum revision and new textbooks on Mathematics should aim to address these two issues.

There is also a need to relate Mathematics with other subjects of study. For example, when children learn to draw graphs, they can be encouraged to think of functional relationships in other sciences, including geography. They need to appreciate that Mathematics is an effective instrument not only in the study of science but also in understanding the strong interlinks that exist between Mathematics and other branches of knowledge like art and architecture.

Some Issues affecting a Good Mathematics Curriculum

1. A majority of children have a sense of fear and failure regarding Mathematics. Hence, they give up early on, and drop out of serious mathematical learning.
2. The curriculum is disappointing not only for this non-participating majority but also for the talented minority as no challenges are offered to them.

3. Problems, exercises and methods of evaluation are mechanical and repetitive, with too much emphasis on computation.
4. Areas of Mathematics such as spatial thinking are not developed enough in the curriculum.
5. Teachers lack confidence, preparation and support.

In order to overcome some of the above issues, curriculum and textbooks should take positive approaches to make learning of Mathematics interesting.

The table below gives a comparative picture and suggested changes in curriculum.

Table 14.5

Lower Primary Stage (I to IV Standards)

<i>NCF 2005</i>	<i>State Curriculum</i>	<i>Suggested Modifications by the Committee</i>
1. Maths learning occurs through play rather than through didactic communication	1. Comparison and classification of physical quantities	1. Retain NCF Frames
2. Discourage rote learning	2. Emphasis on the development of skill to use and apply mathematical vocabulary, mathematical symbols, signs, symbolic representations	2. Discourage rote learning in mathematics
3. Skill development such as comparison, classification and identification is focused	3. Stress on measurement of money, time, volume, length, weight, angle; non-formal and sophisticated means	3. Discourage algorithmic learning and instead promote understanding mathematical processes
4. Developing positive attitude and liking for mathematics through games, puzzles and stories	4. Estimation on approximation of physical quantities	4. Addressing mathematics phobia through non-standard techniques like jokes, puzzles, riddles, story and childhood games
5. Maths learning is linked to child's everyday life	5. Importance is given to shapes, spatial relations and geometric patterns from the environment	5. Encourage art in mathematics learning—use of rangoli, plane figures, bangles, etc. Introduce simple frieze patterns
6. Emphasis is given not only to numbers and their operations but math learning is extended to shapes, spatial understanding, patterns, measurements and data handling	6. Accurazrming fundamental mathematical operations	6. Ensure pre-number learning/ concepts

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|---|---|---|
| 7. Stress is laid on identifying, expressing and explaining problems, estimation approximation and connections
8. Scope is given to the development of language in communication and reasoning | 7. Scope is given to appreciate the utility of mathematics in real life | 7. Generate maths learning from child's familiar environment through natural settings |
|---|---|---|

Upper Primary Stage (V to VII Standards)

NCF 2005	State Curriculum	Suggested Modifications
1. Consolidation of previously learnt mathematical concepts	1. Create awareness about mathematical terms, symbols, concepts and important processes	1. Discourage algorithmic learning and instead promote learning of mathematical processes
2. Facilitate universal mathematical literacy	2. Develop skills in problem solving and specialisation in other fundamental processes	2. Emphasis on sophistication of measurement of time, money, length, area, volume, etc.
3. Experience and enjoy the power of mathematics	3. Develop skills in drawing, measurement, approximation and explanation	3. Stress on estimation of physical quantities and computations
4. Learn new and powerful concepts by compressing the previously learnt concepts	4. Develop abilities in using tables and ready reckoners and collect information from them	4. Consciously address maths phobia through non-standard techniques like jokes, puzzles, riddles, stories, childhood games, etc.
5. Introducing the children to algebraic notation	5. Utilises the mathematical knowledge in solving simple problems in daily life situations	5. Linking folk math, metric mela to classroom instruction—teaching mathematics in nature and in a natural setting.
6. Use of algebra in problem solving and generalisation	6. Develop abilities in reading and explaining data in graphs	6. Introducing Arts in mathematics education through Rangoli, Escher's Lithographs, Islamic architecture, etc.
7. Systematic study of shapes and space (both 2 D and 3 D)	7. Develop awareness about the programmes and achievements of the Government and other organisations in social and economic development of the nation	7. Create opportunities to know the history of Mathematics including mathematics across several continents

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|--|---|--|
| 8. Consolidate the knowledge of measurements | 8. Develop common understanding about national unity, national integration, protection of environment, small family norms observation, removal of social barriers and gender bias | 8. Generate a vision—Mathematics as a human endeavour |
| 9. Representation and interpretation of data | 9. Appreciate the contributions of great Indian mathematicians | 9. Gradual increase in mathematical sophistication should be reflected both in the syllabus and the textbooks. |
| 10. Understanding of data and its application to real life | 10. Inculcate interest in Mathematics | |

Secondary Stage (VIII to X Standards)

NCF 2005	State Curriculum	Suggested Modifications
1. Understand and appreciate Mathematics as a discipline	1. Consolidate the knowledge of numbers, number system, numerals, basic operations with numbers and the basics of algebra operations, manipulations and base geometrical knowledge learnt at the primary stage	1. Provide opportunities and challenges to promote abstract thinking in the context of problem solving
2. Focus on precise mathematical communication	2. Acquire knowledge of mathematical terms like factors, square roots, exponents, etc., concepts like factorisation, concurrence, mathematical principles and geometric truth and proofs	2. Usage of computers should be optional and usage of other aids, especially low cost and innovative ones must be encouraged.
3. Experience algebra as a tool in problem solving—both “real life” and “mathematical”	3. To develop understanding of process involved in calculation with numbers, algebraic manipulation and theorems	3. Mathematics laboratory must be made mandatory in high schools to ensure that the learner experiences mathematics. This would also reduce mathematics anxiety and Maths phobia
4. Integrate mathematical skills and concepts with problem solving ability	4. To develop skills of substitutions, calculations, simplifications, drawing, approximation and estimation of quantities	4. Awareness of relevance of mathematics across other disciplines and professions should be developed

5. Consolidation of mathematical literacy through mathematical modelling, data analysis and interpretation
6. Facilitate the process of visualisation, abstraction, patterns, etc. through concrete aids including computers
5. To develop ability to think and reason logically, communicate, develop the ability to estimate measures, to calculate orally
6. To develop skills in the use of mathematical tables, like interest tables, for solving problems
7. To develop necessary skills for solving problems from day-to-day life situations
8. To acquaint with the use of technological devices such as calculators, computers
9. To analyse and see inter-relationship between and among variables in mathematical problems
10. To develop interest in mathematical contributions (especially Indian) to daily life transactions, in pursuing higher studies and progress of other situations
11. To develop interest in solving mathematical puzzles, riddles and such recreational mathematics
12. To develop the ability to apply mathematical knowledge in solving problems in allied sciences and life
13. Appreciate use of mathematical symbols, interpretations of certain natural phenomenon, mathematically different patterns and structures in environment, evolution of mathematical symbols and sequence, symmetry, chronology.

Learning of Science

There are many responses to the question: "Why is science education so valuable in school curriculum?" Science education empowers children by developing in them capabilities to understand, question and think critically. Science encourages the use of observation, intuition, hypothesising, experimentation and verification to analyse and understand various concepts and facts.

It helps children observe the world around them, link their cognitive structures with events and phenomena in their environment, understand the interactions and act as change agents in bringing about behavioural changes in them and the society. It enables children to reflect (think) and interact and develop a rational and objective outlook. Science education helps students understand the need for change and progress in society and manage the same effectively.

NCF 2005 looks at science curriculum as an instrument for achieving social change. In order to bring about any qualitative change, science education should undergo a paradigm shift. In this context, NCF 2005 is progressive in its outlook and incorporates linkage of science curriculum with the immediate surroundings of the child and the society at large. It aims at making learning of science meaningful and relevant for social needs.

NCF recommends that teaching of science has to be recast so that it enables children to examine and analyse everyday experiences, acquire methods and processes that will nurture the thinking process, curiosity and creativity. Further, the State Committee recommends that concerns and issues pertaining to the environment must be emphasised in every subject and through a wide range of activities involving project work.

NCF 2005 lists 6 criteria that determine the validity of a good science curriculum.

1. Cognitive validity
2. Content validity
3. Process validity
4. Historical validity
5. Environmental validity
6. Ethical validity

NCF 2005 keeps the following as the basic aims of science education.

- Develop a knowledge of facts and principles of science and their applications, consistent with the stage of cognitive development.
- Acquire skills and understand the methods and processes that lead to generation and validation of scientific knowledge.
- Develop a historical and developmental perspective of science that would enable one to view science as a social enterprise.
- Relate to the environment (natural/artifacts and people), local as well as global, and appreciate the issues at the interface of science, technology and society.
- Acquire the requisite theoretical knowledge and practical technological skills to enter the world of work.
- Nurture natural curiosity, aesthetic senses and creativity in science and technology.
- Imbibe the values of honesty, integrity, cooperation, concern for life and conservation of environment.
- Cultivate scientific temper—objectivity, critical thinking and freedom from fear and prejudice.

The present Karnataka Science Curriculum, when viewed from the above perspective, reflects many positive features as some of the focuses mentioned in the NCF are already incorporated. But there is enough scope for a paradigm shift to make it more child centred, experimental, relevant, meaningful and less of a mental burden on the child.

Lower Primary Stage

Keeping the NCF 2005 guidelines in view, the syllabus committee will have to review the proportion and relevance of the science content in environmental studies taught at the lower primary stage.

- Emphasis to be given to firsthand experiences through practical activities.
- Provision for development of process skills – observation, classification, recording, etc.,
- Create opportunities to link content with the immediate environment of the child
- Stress to be laid on health and physical education.
- Instructional methodology to be according to the age group, nature of content and available local resources.
- Flexibility in teaching to be incorporated in the curriculum as per the nature of target groups under the semester scheme.
- Avoid unnecessary overloading of content.

Upper Primary Stage

At the upper primary stage, the syllabus committee will have to review the extent to which the integrated approach in teaching of the various branches of science has been incorporated.

- Develop the right perspective in science through “learning by doing”; thus laying emphasis on knowledge construction through conducting simple experiments, surveys, etc.
- Take the children through a gradual transition from EVS to the elements of science and technology.
- Design and construct simple models to provide practical knowledge about common mechanical and electrical devices.
- Encourage students to take up contextualised projects.
- Adapt teaching styles suited to the nature of target groups by providing locally relevant examples and projects.

Secondary Stage

At the secondary stage, encourage learning of science as a discipline and bring an integrated approach among various branches of science such that it enables children.

- To understand environmental and health issues;
- Draw inferences and make interpretations through conducting systematic experiments;
- Develop skills in discovering/ verifying theoretical principles;
- To work in locally relevant projects.

The Committee has given a comparison of the state science curriculum with NCF and suggested changes in the state curriculum at different levels.

Table 14.6
Standards I to V

NCF	State Curriculum	Suggested Modifications
1. Arouse curiosity	1. Spirit of inquiry	1. Emphasis to be given to first-hand experiences through practical activities
2. Explanatory and hands-on activity	2. Creativity	2. Provision for development of process skills—observation, classification, recording, etc.
3. Basic cognitive and psychomotor skills through language and process skills	3. Objectivity	3. Create opportunities to link content with the environment
4. Internalise values: cleanliness, honesty, cooperation, concern for life and environment	4. Courage to question	4. Stress to be placed on health education
5. Instructional methodology should be activity based and provide interactive experience	5. Aesthetic sensitivity	5. Methodology should be according to age group, nature of content and available resources
6. No formal testing, no grading, no detention	6. Search for truth	6. To adopt flexible teaching styles according to the nature of the target group as per trimester scheme
	7. Acquire observation and analytical skills	
	8. Ability to use tools and apparatus according to the needs	
	9. Understand basic science concepts, laws, and principles and apply them to solve problems (Science is part of EVS) Concrete situations relating to the immediate environment.	

Standards VI to VII

As in NCF	State Curriculum	Suggested Modifications
1. Developing right perspective for learning science by science learning principles of science	1. Strengthen and consolidate abilities	1. Consider gradual transition from environmental studies to the elements of science and technology
2. To enable gradual transition from environmental studies to the elements of science and technology		

3. Emphasis on knowledge construction through simple experiments, surveys, etc.		
4. Design and fabricate simple models, practical knowledge about common mechanical and electrical devices, contextualised projects		To adopt teaching styles according to the nature of target groups, providing locally relevant projects
5. Continuous as well as periodic assessment	Semester scheme has periodic assessment and grading	A combination of both NCF and semester scheme

Standards VIII to X

NCF	State Curriculum	Suggested Modifications
1. Learn science as a discipline.	1. To learn basic structure and principles with reference to industry and contemporary technology	1. To provide opportunities to collect information, consolidate and draw inferences
2. Understand and analyze environmental and health issues		2. To stress on interdisciplinary nature of science
3. To draw inferences and make interpretations by conducting systematic experiments		3. To emphasise construction of knowledge.
4. Skill in discovering/verifying theoretical principles		4. Equal emphasis for both process and product evaluation
5. Continuous and terminal examination.	5. Terminal examination at the end of tenth standard	

Learning of Social Sciences

The NCF 2005 lists the following as the basic objectives of social science education.

- To understand the society in which the learner lives;
- To appreciate social values like liberty, equality, justice and values enshrined in the Indian Constitution;
- To develop a scientific outlook in analysing the problems faced by society and the nation and to face the challenges of the time;
- To develop skills for social interaction and human relationships;
- To grow up as responsible members of society.

A social science curriculum which contains socially sensitive issues like gender sensitivity, social hierarchies, inequalities among people, will make the learner think constructively about society. Hence content must be developed in a concentric manner taking the students through local, regional and national levels as they proceed from lower classes to higher classes. Study of other countries must be to the extent that it helps in understanding our country better.

Essentials of the Indian Constitution such as justice, liberty, equality, fraternity, secularism, democracy, social justice, unity and integrity, rights and responsibilities should be made known to children. This will make them grow up as responsible and constructive citizens.

Elementary economic aspects like money and its utility, banking, trade and commerce, income, expenditure and elementary records and accounts keeping should be included in the curriculum. This will enable the learner to develop interest in economics and commerce and have the option of pursuing the same for higher studies. Learning about the economic, social and commercial institutions will benefit even the school dropouts at this level.

Hence introduction of commerce in social science curriculum is essential from VIII standard and must be continued till X standard. The students will learn the basics of business operation management and interaction skills. They will develop interest in activities of trade and commerce and learn the techniques of accounting systems, which will be of great value in their daily life.

NCF emphasises the teaching of social sciences from a disciplinary perspective while emphasising the integrated approach in the treatment of significant themes. The social sciences curriculum should also enable pedagogic practices which are critical for developing the thinking process, decision making and critical reflections on social issues.

The NCF has also recommended a paradigm shift proposing the study of social sciences from the perspective of marginalised groups. Civics should be recast as political science and sociology, and the significance of history as a shaping influence on the child's conception of the past and civic identity should be recognised.

Most of the children from rural as well as socially and economically weaker sections in the urban areas face/suffer not only social disabilities but also some form of physical or mental violence.

A study was conducted in Bangalore rural district in 2001–2004 by the Department of Economics, University of Manitoba, Canada. It came to light that 98% of school dropouts who worked as child labourers were victims of alcoholic fathers and brothers. Many of the children were working to pay off debts incurred by parents to pay dowry of their older siblings. So drinking-child labour-dowry has deeper linkages than what is apparent to the public eye.

The inroads made by dowry across all sections of rural and urban society has resulted in the spread of female feticide as represented in the falling sex ratio. The adverse sex ratio in certain northern districts of Karnataka is already a cause for concern. So it is vital to inculcate ethically correct behaviour and develop awareness about the state interventions in the form of laws, police protection and legal action. This would go a long way towards creating a generation of responsible and proactive citizens.

The importance of social science education is to be emphasised in the context of a plural society like ours and the impact of globalisation. The social science curriculum which comprises components of History, Geography, Political Science, Sociology, Economics and Commerce will help learners to understand the society in which they live, to address themselves to the social, economic and environmental problems and to face challenges. Hence, the Committee recommended that the syllabi for VIII to X standards may be framed with the following proportion of weightage given to the different subjects within the Social Science syllabus:

History	30%
Geography	15%
Political Science	15%
Sociology	15%
Economics	15%
Commerce	10%
	<hr/>
	100%

The Committee felt a reduction in the portions related to Geography (from the current 30%) is not unwarranted as several chapters in the existing syllabus relating to agriculture, industry and trade are repeated in economics.

Other Curricular Areas

NCF draws attention to 4 other curricular areas: work, the arts and heritage crafts, health and physical education, and peace. The revision should take steps to include these critical components in the school curriculum. The Committee felt that a separate committee needs to look into the present content and suggest changes to be made in the light of the recommendations made in NCF.

Learning without Burden

The NCF and the Trimester Scheme lay special emphasis on learning without burden. Hence, the syllabus framers have to give special attention to weed out unnecessary and irrelevant information from the syllabus and content. For example, memorising a large number of dates in history, dates of births of scientists/dates of discoveries in Science can be avoided.

Systemic Reforms

Apart from laying down guidelines for providing minimum infrastructure and material facilities to schools, NCF lays emphasis on improved teacher performance, locally planned and flexible school calendars and timetables. It calls for focus on reconceptualisation of school text books, teachers' handbooks based on new perspectives and access to interactive technologies. Recasting of teacher education programmes, vocational education and training are some of the areas which are to be implemented in a mission mode.

NCF recommends examination reforms with due stress on shifting from content based testing to problem solving and competency based assessment, examinations of shorter durations and flexible time limits. Some of these reforms have already, effected under the trimester scheme in the state. NCF also recommends for partnership between the school system and other civil society groups, NGOs and teacher associations.

Guidelines for Textbook Revision

Curriculum and syllabus for each subject guides the textbook writers in terms of the content, scope, objectives as well as variety and totality of learning experiences. Textbooks need to be learner friendly and at the same time, must motivate teachers to structure their classroom lessons effectively. Hence, there is a need to design them within the framework of a syllabus prepared on strong scientific and psychological grounds.

Textbook committees should consist of a healthy mix of subject experts and good and experienced classroom teachers. The classroom teachers can give vital inputs such as difficulty level that can be handled in a class, method to be used for explaining a certain concept, etc.

The textbook writers should be aware of the reasons for revision of curriculum and textbooks and hence they should be given orientation on the same.

The following are the guiding principles for textbook writers.

1. Making textbooks child centred.
2. Inclusion of social and environmental concerns.
3. Integrated approach and totality of experiences in subjects.
4. Use of activities for understanding of concepts.
5. The child should construct knowledge through his/her own experiences.
6. The content selected should stand the 6 tests of validity.

7. The textbook should have easy readability. Students should be able to understand the content on their own, specially when there is long absence of teachers.
8. Textbooks should be written within parameters defined by the prescribed syllabus, keeping in view the curricular objectives.
9. There should be widespread field trials of textbooks with the involvement of teachers at all stages. Testing, research inputs and feedback mechanisms must be institutionalised as part of textbook development.
10. Textbooks at different stages should be split into suitably small sizes to decrease the physical burden of the school bag. The trimester scheme advocates preparation of textbooks trimester-wise.
11. The textbook should arouse in the children a desire and curiosity to learn.
12. It should have verity of activities: a learning experience can be repeated differently over a period of time with different materials.
13. The activities should fully exploit the locally available material and give scope for local specific information. (e.g., giving open ended questions, collection of locally available materials, etc.).
14. There should be place for imagination and fantasy but caution should be exercised in this regard. Science stories can be included in Science textbooks.
15. The textbook should have scope for practice, homework and group work.
16. Total teaching time available in a year should be taken into account while writing textbooks.
17. The textbook should have inbuilt evaluation measures which children take up with the same spirit as other learning activities.
18. The text should bring out the total potential of the child and enable him/her to meet the challenges posed by the present times.
19. The textbook should encourage children to be creative and express their ideas.
20. The textbook should help children unlearn the misconceptions already formed.
21. The cause and effect concept, if included in the textbook, should be within the experience of the children.
22. The textbook should meet the individual differences in children to the extent possible. The needs of girls, tribal children, physically challenged children, children with learning disabilities and working children should be taken into account while writing the textbook.
23. The textbook should make the teachers' task most enjoyable, effective and practical. It should provide sufficient resource even to a teacher who is not a specialist in the subject.
24. The textbook should help the teachers to prepare the lessons in advance and thus increase children's learning effectively.

Science Textbooks

1. Emphasis on acquisition of knowledge through understanding, analysing, reasoning and application in science to be given.
2. Providing opportunities for observation, collection of data, consolidation, inference, questioning and exploring. The information could be multi-sourced: observations, teachers, community resource persons, projects and internet.
3. Need to have comprehensive integration of activities and experiments in science textbooks.
4. Provision necessary scope for questioning and exploring in science learning.
5. Emphasis on 'first hand experience' and 'hands-on' activities in the learning of science concepts. Since a number of teachers prefer blackboard experiments, a list of experiments must be given to be compulsorily done in classrooms, so that inspecting officers can verify them during their visits.
6. Additional activities that can be taken up by science clubs can be given.
7. Providing linkages of the content with the environment—events/phenomena/ problems and issues (local to global).

8. Emphasis on interdisciplinary nature of science. For example, providing opportunities to children to understand interrelationships of different branches of science like physics, chemistry, biology, geology, etc. and applying the same for problem solving and carrying out projects.
9. Stress on 'knowledge construction' rather than mere memorisation of scientific facts and definitions/ explanations by the students by incorporating well designed activities/experiments and projects.
10. Emphasis on development of process skills in children such as observation, classification, differentiation, measuring, drawing inferences, etc.
11. Adopting different teaching styles, providing space and time for various target groups in accordance with the content and age of students.
12. Giving importance to the influence of science on society, with its role in the present context of achieving sustainable development (rural and urban context).
13. Giving importance to scientific method and development of interest, curiosity, scientific attitude and skills.
14. Emphasising both process and product evaluation. Providing scope for development and use of appropriate tools and techniques for the measurement and evaluation of process skills.

Mathematics Textbooks

A good mathematics textbook should aim at

1. Enjoying and appreciating mathematics rather than fearing it.
2. Learning important concepts which can be easily applied in daily life.
3. Viewing mathematics as something to talk about, communicate through, discuss among and work together on.
4. Posing and solving meaningful problems.
5. Using abstractions to perceive relationships, see structures, reason out things, argue the truth or falsity of statements.
6. Understanding the basic structure of mathematics; Arithmetic, Algebra, Geometry—the basic content areas of school mathematics, all offer a methodology for abstraction, structuring and generalisation.
7. Engaging every child in class with the conviction that everyone can learn mathematics; finding ways to ensure success for all.

Problem solving can be taught in a variety of ways progressively during the different stages of school: abstraction, quantification, analogy, case analysis, reduction to simpler situations, even guess-and-verify exercises, etc. Moreover, when children learn a variety of approaches (over time) their toolkit becomes richer, and they also learn to identify the best approach. Children also need exposure to the use of heuristics, or rules of thumb, rather than only believing that mathematics is an 'exact science'.

The importance of systematic reasoning in Mathematics cannot be overemphasised. In fact, mathematicians associate the process with elegance and aesthetics, so much that even a skeptic cannot help getting convinced when the proof of a problem is presented. Proof is important, but in addition to descriptive proof, children should also learn when pictures and constructions provide proof. Hence, mathematics must encourage the development of this as an art right from the school level.

Children must be dissuaded from memorising prescriptive definitions of mathematical terms and encouraged to construct and use descriptive definitions. They must be encouraged to develop arguments and evaluate them, make conjectures and investigate them and finally understand that the ways and means of reasoning are, after all, rich and varied. The power of mathematics thus gets unfolded from the early stages of learning.

Teachers of mathematics have a vital role in achieving the learning objectives. Exposing students to the etymology of technical terms offers an excellent way to get an insight into the history and concepts besides making the learning meaningful. Introduction of puzzles, riddles brings in the element of fun

and challenge in learning. Visualisation and representation are skills that are best imparted through creating models using quantities, shapes and forms.

The estimation of quantities and approximating solutions is an essential skill. When a farmer estimates the yield of a particular crop, he uses considerable skills in estimation, approximation and optimisation. School mathematics can play a significant role in developing such useful skills. In addition, children must also develop estimation in computations. For instance: Is 23×37 more than 700? Is $564/68$ around 7?

Mathematical concepts can be represented in multiple ways, and these representations can serve a variety of purposes in different contexts. All of this adds to the power of Mathematics. For example, a function may be represented in algebraic form or in the form of a graph. The representation p/q can be used to denote a fraction as a part of the whole, but can also denote the quotient of two numbers, p and q . Learning this about fractions is as important, if not more, than learning the arithmetic of fractions.

Children should be encouraged to explore, understand and appreciate the elements of mathematics in our culture and society. For instance, they can do projects to study temple architecture, geometry in Islamic art, music, dance, Rangoli, local computational methods and ideas and so on.

Thus, depending on the variety that a teacher can bring into the classroom transaction, Mathematics can become intrinsically motivating. It goes without saying that students at all levels need to be exposed to the variety in the teaching-learning process.

Considering the way technology is growing and changing our lives, it is imperative to make optimum use of calculators in school mathematics programme. This does not necessarily mean the use of these calculating devices in the classroom and in the examination. It is possible to promote their use in performing long and tedious computations, to explore number patterns, relationships, etc.

Mathematics laboratory is an ideal and effective way to achieve all or most of the objectives of mathematics teaching at school mentioned above. The same may be introduced gradually at all the levels: primary, upper primary and secondary. It seems appropriate to formally begin it with high school as some amount of material-based pedagogy is being done at other levels currently. Around 10–15% of the instruction time can be devoted to laboratory work where children use low cost and locally available materials to understand mathematical concepts. Children should perform the 'experiments' and engage in activities rather than simply 'see' a demonstration.

This way the anxiety and fear which are impediments in school mathematics education or the phobia arising out of partial/wrong understanding of concepts, can be minimised. With perseverance they can be eliminated.

Social Science Textbooks

Basic geographic and historical facts remain the broad platform and the mainstay of social science curriculum. Textbooks should stress on local and regional geographic factors with an understanding of the environment.

Examples of individual and interdisciplinary concept development in the Social Science curriculum are given below.

Individual

V to VII

1. Observe the surroundings of your village or town. Make a list of different types of trees and animals.
2. What is the source of drinking water to your village or town? Make a list of wells and tanks in your village or town.

VIII to X

1. Estimate the total number of people in your locality. How many males and females. Work out the sex ratio.
2. Topography of your district (Physical features)—Classify them according to their height and mention the economic activities of people.

Interdisciplinary

Make a study of the following.

1. Crops grown in your area and development of industries on the basis of crops grown.
2. Transport facility and accessibility to government and other offices located in neighboring towns.
3. Social and political institutions in your area, and the economic and social benefits derived from them.
4. Changes in values of currency for exchange.
5. Simple function of bank, post office.

Wherever possible, maps/charts/graphs can be generated, e.g., map showing regions of crop production, development of industries, etc.

Evaluation

Examination scores may not be the best way of testing the child's learning skills as they give undue importance to rote learning more than comprehension and analysis. At the lower primary stage, the state has adopted the no-detention policy upto IV standard with a view to retaining all children in the primary school system. However, children in these classes are assessed by the teachers through continuous and comprehensive evaluation. At the upper primary and secondary stage, the 4 tests and 2 examinations system has been replaced by the semester system.

Learning Guarantee Scheme

The Learning Guarantee Scheme is a joint venture between the Education Department and the Azim Premji Foundation. This scheme aims at creating willingness among schools and communities to come forward and be evaluated on the three criteria of enrolment, attendance and learning achievements of children. The schools that get evaluated and satisfy all the three criteria became eligible for suitable monetary awards by the APF. Details of the scheme are given in Chapter VII.

Trimester Scheme

As already discussed, the trimester scheme was launched to rectify some of the anomalies found in the annual examination system. At the end of every trimester in V to IX standards, evaluation in every subject was made for 90 minutes duration. It was designed to test the competency (including understanding, application and other skills) acquired by the student during the trimester. There was provision for the teacher to analyse the deficiencies of the learner and take up activity-based remedial teaching.

In languages evaluation, due weightage was given to oral and written communication skills of the learner. Competencies were tested by using non textual matter like stories, dialogues, essays of similar standard and difficulty levels. The learner had to read this material, understand and answer questions on the same.

The marks so obtained were converted into grades and recorded in the progress reports. Details of the scheme are given in Annexure III.

X Standard Public Examination Reforms

The expert group (led by late Dr T K Jayalakshmi of R V Educational Consortium, Bangalore), which was constituted to look into the examination reforms for the X standard public examination, concluded that conducting a public examination at the end of every trimester at the X standard level was not practically viable and hence suggested the introduction of competency based and objective type question papers for the public examination.

After X standard, both years of PUC follow the annual examination format. Moreover, the child who enters X standard has sufficiently matured to take on the annual system. Hence, it was felt that the annual format may be retained for the X standard public examination with some suitable modifications.

Even earlier, as a preliminary step to examination reforms, an experimental type of competency based question paper was field tested in 48 secondary schools in 8 districts covering 17,883 children in 2003 and again in 20 districts in VIII standard annual examination of 2004 covering 51 secondary schools and 5495 children. The results of these two pilot studies showed

1. The students had shown interest in the new format of the question paper and their performance was definitely better.
2. The average performance was 40–80 % in Part A (objective questions) whereas it was only 15 – 48 % in Part B (short and long answer questions)
3. There were no significant variations either due to gender, government or private schools, or rural and urban schools.
4. The new format encouraged students to understand the concepts better rather than cramming the content.
5. Part A could easily be converted to an O M R (Optical Meter Reading) format which would further help in speedy declaration of results.
6. Malpractices could be reduced as scope for copying come down.

Based upon results obtained in these pilot studies, the format of the examination for the X standard was finalised by this working group. A model question paper was introduced for the III trimester examination of the IX standard in March 2005 to familiarise teachers and students with the type of question papers to be introduced in X standard public examination of March 2006.

KSEEB adopted the new format and printed for each student one question paper cum answer booklet in every subject for the 2006 examination. It also introduced computerised variations in the question paper to prevent copying.

Each question paper contained two parts in the X standard public examination. The first part consisted of objective type questions and the second part consisted of competency based questions which tested the analytical ability, problem solving, expression and other important abilities and skills of the child. For the March 2006 examination, the distribution of marks between Part A and Part B in each question paper was as follows:

In languages	— Part A – 50 %, Part B – 50 % of the marks
In core subjects	— Part A – 60%, Part B – 40% of the marks

The results showed marked improvement. The overall percentage of passes rose from 62.47 to 71.00.

In fact the National Focus Group on examination reforms has lauded the examination reforms introduced by the state. "Most real life tasks today, in most professions, call for the ability to access information, sift and evaluate, sort and analyse it. These skills can be tested through well designed multiple choice questions (MCQs) with plausible distracters". The ubiquitous "short answer" question usually does not do more than test recall and can be replaced with good MCQs.

Karnataka DSERT reports lower student anxiety levels, higher pass percentages, and lower urban-rural score disparities where MCQs have been tried extensively in recent years and now comprise up to 60% in secondary exams.

MCQs have many more advantages. They can be machine read, hence are entirely reliable and very quick results are possible. Copying problems can be minimised through reshuffling questions. Extensive syllabus coverage is possible due to the brief time needed per question.

NCF 2005 – Approach Towards Pupil Assessment

The NCF advocates a more constructive approach towards the teaching-learning process. It stresses on the use of pupil assessment as a means to reflect on the efficiency of the teacher, school and the system. It rejects textbook-based assessment which is primarily conducted in pencil-paper mode and calls for a more holistic approach that takes into account the child's abilities, development and progress. Thus, it promotes a continuous and comprehensive evaluation system which can play a more meaningful role in assessing the child's participation in the process of teaching and learning.

Accordingly, assessment should aim at understanding not only the child's cognitive development, but also its attitude to learning, interest, social skills and ability to learn independently. This should be done through continuous and qualitative assessment.

The NCF 2005 further emphasises the role of assessment in promoting an inclusive school culture that is devoid of competition and overemphasis on discipline. It points out that if the pupil assessment system is developed in a more constructive and meaningful way, it can promote a school ethos that is based on cooperation, nurturance and sharing, and also enable the teacher to conduct the teaching-learning activity more efficiently.

Karnataka School Quality Assessment Organisation (KSQAO)

The "Eduvision" document developed by Dr Govinda recommended creating a system of monitoring which ensures that every school maintains minimum expected standards and effectively implements the improvement plans for quality improvement. The report further added that it will be difficult to put into place such a system within the existing framework of inspection and supervision. It therefore recommended establishment of a "Standards and Quality Monitoring Organisation" which functions as a quality watch organisation drawing upon the expertise already available inside and outside the system.

The state government desired to establish such an organisation and charge it with the development of an effective system for assessing schools. Dr (Alcyone Vasconceios) Saliba, a consultant was appointed by the World Bank to study similar types of organisations existing in various countries and present a suitable model for setting up a School Quality Assurance Organisation in the state.

Dr Saliba submitted her report which was accepted by the state. The "Karnataka Quality Assessment Organisation (KSQAO)" was set up in 2005-06 to take up the mandate of assessing schools throughout the state.

The objectives of KSQAO are

1. To assess achievement of competencies among students in select classes and subjects.
2. To critically analyse quality assessment as a key to improve school quality.
3. To create awareness among all stakeholders about quality education.
4. To analyse data obtained through assessments critically, carry on research based on this data and use the results for future policy interventions.

Definition of Quality by KSQAO

KSQAO defines quality as a situation when "All children from 6 to 14 years of age are in school, learning satisfactorily and thus transitioning to higher classes every year."

KSQAO Evaluation 2006

In January 2006, KSQAO evaluated 21.62 lakh children (studying in II standard (4 schools per cluster), and all children studying in V and VII standards) in 19,518 lower primary schools and 24,073 higher primary schools, which included both government and aided schools in the state.

The students were evaluated in 55 competencies in Kannada, EVS and Mathematics in II standard

and 115 competencies each in Kannada, Science, Social Science and Mathematics in V and VII standards. The overall performance in II standard was 67%, V standard 49% and VII standard 48%. Girls were found to have performed marginally better than boys.

Table 14.7

Performance in KSQAO Evaluation

Subject	II Std	V Std	VII Std
Overall	67	49	48
Kannada	65	51	54
Mathematics	61	46	40
Science(EVS)	78	53	50
Social Science	—	47	46

Source: KSQAO

The performance in 18 educational districts was below the state average of 50%. 12 districts were in 40 – 45 range and 6 districts in 46–49 range. Efforts have to be made to see that all districts perform above 50% in subsequent evaluations. The goal should be to see that 80% of children exhibit mastery levels (80% of competencies). Every year KSQAO is taking up a massive exercise to evaluate students studying in V and VII standards of both government and aided schools across the state. The assessment is being done through written tests. The assessment results should lead to reform programs—remedial teaching for slow learners and children in weak subjects. The BRPs and CRPs should hold periodical interactive sessions with heads of institutions and teachers, analyse the causes for low results and enable the teachers to identify deficiencies in each child so that appropriate strategies can be planned to help the needy students.

KSQAO should also set standards for learning in each subject area and assess if these targets are achieved by the schools. The assessment summary should be prominently displayed in the Head teachers' room as it would help teachers to take up self assessment measures as per designed criteria. The KSQAO should also grade the schools cluster wise and block wise on a five point scale (A, B, C, D and E) so that the schools falling in C, D and E categories may be targeted for remedial measures.

Computer Education in Karnataka

Information Technology

"Technology is bound to influence and transform existing educational provisions, influencing globalisation of education, bringing in new generation learning materials and encouraging networking of schools. Because of their ability to integrate multiple media, flexibility of use, interactivity and connectivity, the new digital Information and Communication Technologies are bringing about remarkable changes in education around the world—affecting both the pedagogy and the institution." – UNESCO

Information Technology happens to be the future of the society and holds a lot of promise for posterity. Technology, if leveraged appropriately, can be a facilitator of effective teaching-learning process impacting all aspects of education and learning. Governments, universities and educational institutions in India are increasingly recognising the important role that technology can play in education. Standing in testimony to this are the ICT projects of varied scale and objectives that are being implemented across the states, departments, universities and educational institutions in India.

The state of Karnataka has gained worldwide reputation for being in the vanguard of Information Technology as it is home to several information technology companies. The state initiated the ambitious "Mahiti Sindhu" computer education project in schools in 2001–02.

A. Mahiti Sindhu Project

The policy of the GOK is to give Computer Education and Computer aided Education free of cost under "Mahiti Sindhu" to VIII, IX and X standard students in selected 1000 government secondary schools in the state. While selecting schools, importance was given to girl students of rural areas, SC and ST and backward classes and weaker sections of society. One secondary school was selected from each revenue hobli. All Morarji Desai residential schools were also selected for computer education under this project.

This project is fully financed by the GOK. The entire cost of the project amounting to nearly Rs 210 crores was spent during the project period of 5 years from 2001–2002 to 2005–2006. A decision was taken to continue the project for another three years from 2006–07 by selecting new computer agencies through the tender process. Since there was a delay in the tender process, the students did not get the benefit of computer education during 2006–07.

Objectives of the Project

This ambitious project aims at giving free computer education and computer based education to students of government schools, who come from rural and economically weaker sections of the society, thereby enhancing the quality of education being given to them. The objectives of the project are

- To enable the students to gain computer education and to understand its applications.
- To enhance the learning levels of the students in curricular subjects through computer aided education using multi media software CDs.
- To introduce students to the world of opportunities that computers have to offer.
- To enable the students to understand the basics of computer programming.

- To introduce students to the communication media of e-mail and the internet.
- To train rural youth in the use of computers outside school hours.
- To provide opportunities to the entire community in use of computers.

Special Features of the Mahiti Sindhu Project

- In addition to computer education, students learn Mathematics, Science, Social Studies and English subjects through CD ROMs.
- Students have the option of learning computer education either through English or Kannada medium
- Four periods a week are set apart for computer and computer aided education.
- All teachers of these selected schools are also trained during the project period.

Implementation of the Project

This project was implemented through 3 private sector companies—NIIT, APTECH, and EDUCOMP—which were selected on the basis of their past performance and through a national tender. The allotment of schools to computer agencies was as follows:

Table 15.1

Allotment of Schools to Computer Agencies

<i>Computer Agencies</i>	<i>Schools Allotted</i>
NIIT	700
Aptech	250
Educomp	50
Total	1000

Source: DSERT Report 2006

The period of implementation of the project was 5 years on a turnkey basis starting from 2001–02. The number of computers provided to each school was based on the strength of the school and was as follows:

Table 15.2

Number of Computers Provided to Schools

<i>Category</i>	<i>Student Strength</i>	<i>No. of Computers</i>
A	Up to 150	1 server & 5 work stations
B	151–250	1 server & 9 work stations
C	251 and above	1 server & 14 work stations

Source: DSERT Report 2006

Responsibilities of computer agencies

- To supply hardware and software to Mahiti Sindhu schools.
- To appoint two full-time qualified computer teachers for each school.
- To supply computer textbooks to students as per medium of instruction of each school.
- To impart computer education and computer based education to students.
- To supply required furniture, telephone and internet facility.
- To train teachers in computer education.

Responsibilities of the state government

- To provide three phase power supply to the computer room and the school
- To ensure that the computer room is dust free and leak proof

For the above works Rs 45,000 per school was given to the ZPs.

Supervision of the Project

- The project was implemented by the Education Technology Cell of the DSERT.
- Monitoring and supervision was done through the district DIETs which acted as nodal agencies.
- Evaluation was done through the IISc, Bangalore and computer science departments of selected engineering colleges of the state.

Use of Software for Computer Based Learning

The software for Social Science and Mathematics was prepared by M/S School Net India Ltd and was installed in all the 1000 Mahiti Sindhu Schools. Software for English and Science was developed and installed in all schools by M/S Edurite Technology Ltd. These CDs helped the teachers to take up computer based education.

Financial Aspects of the Project

The project was conceptualised to run for 5 years. The agencies implementing the project were given grants, depending upon the category of the school, as detailed below. This grant was released to the agencies in 20 equated quarterly instalments.

Table 15.3

Cost of Computer Education per School

Sl. No.	Category	Rs in lakhs*
1	A	14.69
2	B	19.10
3	C	24.20

* For the five year period

496 rural secondary schools were supplied with generator sets to overcome the problem of power cuts in rural areas.

Table 15.4

Category	No. of Schools	Model*	Output rating
A	239	BG 2205	1.5 KVA
B	257	BG3005	2.4 KVA

Source: DSERT Report

This experiment was not successful as the supplier of gensets did not service them and the computer service providers raised questions of maintenance and increased costs of running gensets.

B. Eleventh Finance Commission (EFC) Project

This project, which was implemented from 2003–2004, aimed to provide computer education in selected 88 government secondary schools in the state. Spread over a period of 3 years, the total estimated cost of this project was Rs 11.68 crores, the GOI's share being Rs 11.61 crores and the state's share being Rs 7.62 lakhs.

The agency identified for implementation of the project through a tender process was Educomp Datamatics Ltd. Unlike the Mahiti Sindhu Project, computer hardware, software, UPS, generator, and peripherals were taken on an outright purchase basis in this project. The total number of beneficiaries every year was 42,000.

Table 15.5
The Financials of the EFC Project

Sl No.	Items	Cost in Rs
a	Procurement of hardware, software, computer furniture, UPS, genset, etc.	6,58,50,360
b	Annual maintenance cost for 3 years	4,61,91,720
c	Site preparation (Power & dust free room) (released to SDMCs)	48,40,000
Total		11,68,82,080

Source: DSERT Report 2006

The number of computers supplied to schools was based on the strength of the students in the schools:

Table 15.6

Category	No. of schools	No. of students	No. of computers supplied
A	13	Up to 200	1 server & 5 nodes
B	24	201–350	1 server & 9 nodes
C	31	351–550	1 server & 14 nodes
D	20	550 & above	1 server & 19 nodes

Source: DSERT Report 2006

C. Revised CLASS Project

CLASS (Computer Literacy And Studies in Schools) Project was first implemented in 1984–1985 throughout the country in collaboration with MHRD and Electronics Department of GOI on a pilot basis. The project came to a close in 1997–1998. The deficiencies in this project were sought to be rectified in the

Revised CLASS Project which was framed by MHRD in 2001. Under this project, the state governments had to bear 25% of the total cost of the project and submit the project proposals to GOI. Only those schools which taught computer education as an optional subject were entitled for aid under this project.

Based on the proposals submitted by the state government, GOI approved the implementation of the Revised CLASS Project in 150 selected government secondary schools of the state. Each school was given 1 server and 9 workstations. Computer education was sought to be given to a maximum of 350 students in each school. Approximately 53,000 students in 150 government secondary schools were benefited under this project every year.

The estimated cost of the project was Rs 17.21 crores (over 3 years) out of which the central share was Rs 9.9675 crores and the state's share, Rs 7.2420 crores. An amount of Rs 55,000 was allocated to each school for site preparation. This amount was spent through the respective SDMCs.

The identified agency to implement the project, through tender, was the Electronic Corporation of India Ltd (ECIL). Besides providing hardware and software to schools it had to provide computer teachers too. The cost of providing hardware and software to a school was Rs 5,95,500/-.

Table 15.7

Cost of Revised CLASS Project

Items	Cost in Rs.
1. Total cost of hardware & software	8,93,25,000
2. Total EQI cost during the project period (3 years)	7,45,20,000
3. Site preparation (released to SDMCs @ 55,000/- school)	82,50,000
Total	17,20,95,000

Source: DSERT Report 2006

D. ICT@ Schools Project

Up to 2005, 1238 government secondary schools (out of 3,452 government secondary schools as in 2006) had been covered under the computer education projects in the state.

1. Mahiti Sindhu Phase I	-	1000 secondary schools,
2. Eleventh Finance Commission	-	88 -/-
3. Revised CLASS Project	-	150 -/-

In 2005-06, the GOI approved ICT@ Schools project in a further 480 government secondary schools in the state. With this the coverage of computer education programme in the state went up to 1718 government secondary schools. Under the central ICT @ Schools project, the following infrastructure is envisaged:

Table 15.8

ICT@ Schools Project

Sl. No.	Infrastructure Proposed	Unit Cost in Rs
1.	10 PCs/printer/scanner/web camera/modem, etc.	4,05,000
2.	Operating system/Application software	20,000
3.	Educational software	45,000
4.	Furniture	16,000
5.	Computer stationery	50,000
6.	Teachers' training	60,000
7.	Internet	30,000
8.	Maintenance (50% of AMC)	20,000
9.	Monitoring Cost	24,000
Total		6,70,000
Recurring costs*		1,34,000

Source: MHRD

(*consumables, telephone for internet usage, hardware and network maintenance)

Additional items such as generators, preparation of computer labs including civil repairs, cabling and provision of electricity is subject to an overall maximum limit of Rs 6.70 lakhs per school. The central government's share is restricted to Rs 5.00 lakhs per school. The state government was in the process of finalising tenders for this project in 2006-07. Another 1571 government schools were proposed to be covered in 2008-09.

E. Computer Education in Higher Primary Schools

With the funds provided by SSA, computer education was also introduced in government higher primary schools in phases from 2002-2003. In the first year computer education was introduced in 55 selected higher primary schools spread over 11 non-DPEP districts.

In 2003-2004, 135 higher primary schools spread over 27 districts were selected for implementation of the computer education programme. 90 higher primary schools were covered during 2004-05. These interventions were done in collaboration with APF. Besides, APF is also running computer centres in 35 higher primary schools by investing in hardware and software. With the aim of providing computer aided education, the APF also prepared around 100 CDs and distributed them free of cost to these schools.

Community participation is one of the key features of the project. The community will have to meet the recurring expenses like remuneration to computer instructors, electricity, stationery charges, etc., from the second year onwards by raising funds themselves. These expenses are borne by the department in the first year. Young India Fellows (YIF), appointed by APF, imparted computer education to children of these schools, during school hours. After school hours, the computers were used for the benefit of the community. SSA sanctioned computer education in another 540 higher primary schools during 2005-06.

F. Intel® Teach To The Future Training Programme

'Intel® Teach To The Future' is a worldwide education programme created for teachers, by teachers, to help them effectively integrate technology into the classroom to enhance student learning. Teachers learn from other teachers how, when, and where to incorporate technology tools and resources in their lesson plans. The programme started in Karnataka on 25 June 2001, aimed at training one teacher from each of

the 1000 Mahiti Sindhu schools as Master Trainers for a period of 13 days. These Master Trainers trained the rest of the teachers in their respective schools. During 2003–2004, Intel organised state level competitions for Intel trained teachers in collaboration with DSERT.

Intel has also developed three schools as model schools in Bangalore City.

1. Government High School, Jalahalli;
2. Government High School, Peenya;
3. Government High School, Police Colony.

Intel has provided a set of 10 educational CDs and internet support to these model schools.

In order to promote technology aided learning, Intel supported DSERT's endeavour to honour teachers and schools by conducting a statewide contest for the best integration of technology in the teaching-learning process. The award ceremony conducted annually by Intel. The company has also promoted the 225 Science Centres located in government secondary schools across the state, as pilot Technology Assisted Learning (TAL) schools. These schools are empowered by Intel to promote innovative methods and facilitate technology integration in the teaching-learning process.

G. Computer Academies set up by Microsoft

ICT training for in-service teachers is being provided by Microsoft through an M O U with the School Education Department of the GOK under Project Shiksha. Microsoft, in collaboration with DSERT, has set up computer academies at Gulbarga, Dharwar and Bangalore for training of teachers in using computer skills for classroom teaching. Each academy is equipped to train 80 teachers per batch for a period of 2 weeks. After 5 years, the equipment and infrastructure created by Microsoft becomes the property of the department.

This training enables classroom teachers to prepare their lesson plans and use resource material from the internet to improve their classroom teaching. A total of 7000 teachers have been trained so far through Project Shiksha in Karnataka and the quality of training has been good, as reflected through teacher-feedback, teacher-assessment and also from the participation of teachers in events such as Innovative Teachers Leadership Awards.

Besides Intel and Microsoft, several NGOs are also into computer education in schools. The points relating to the Evaluation study of Mahiti Sindhu Project, Intel-IMRB survey report (Also see Table SE 20) and recommendations of the Perspective Plan Committee on computer education are discussed in the chapter on Secondary Education (Chapter VIII).

Computer education provided by private schools in the state is totally haphazard in nature with many of them having the sole aim of making money through collecting hefty fees.

The state has still a long way to go in providing access to computer education in all schools at least at the secondary level. No attempts have been made to provide the same to students studying at the Pre university (Pre university department is proposing to start computer education in 708 P U colleges from 2008–09) and degree levels. The state has yet to frame a comprehensive Computer Education Policy Framework involving educational institutions at all levels.

Literacy and Adult Education

The United Nations has set aside a decade, from 2003 to 2012, and has initiated several programs to improve literacy among member countries. In fact, several of India's neighbours have done exceedingly well—China's literacy rate has crossed 90% and Sri Lanka has touched 92%. Yet "Literacy for All" continues to be an unaccomplished goal and an ever shifting target due to a number of factors like inadequate resources, insufficient efforts and lack of political will.

The Dakar Framework envisages substantial improvement in levels of adult literacy, especially among women. It also envisages that the learning needs of all young people and adults are met through equitable access to basic education through appropriate learning and life-skills programmes. India is stated to have the largest number of illiterates (304.11 million) and ranks 126th (out of 177 countries) in the world in the HDI as per HDR 2006 prepared by UNDP.

Within the country Kerala continues to top the literacy rate with 90.86% literacy and Bihar at the other end of the spectrum having the lowest literacy rate of 47%. Kerala's achievement is remarkable and offers several lessons to organisations working in the field in other states.

Literacy in Karnataka

Literacy Rate

While Karnataka's literacy rate has increased by 10 percentage points from 56.04% (1991) to 66.64% (2001), it is only marginally higher than the national rate of 65.34% (2001). This also means that one third of the state's population is still illiterate. Karnataka is also far behind its neighbouring states in this matter—Kerala (90.9), Tamil Nadu (73.5) and Maharashtra (76.9).

Female Literacy

Male literacy rate in the state is 76.10 (2001) while the female literacy rate is 56.90 (2001). The latter continues to be far lower than the former and the disparity between the two rates is highest in rural areas.

The reasons for the lower female literacy in Karnataka are understood to be gender bias, caste, class and geographical factors. In some pockets of North East Karnataka the scenario is as bad as in Bihar. In 12 districts (including Gulbarga (37.9) and Raichur (35.93)), the female literacy rate is well below the national average of 54.16, whereas it stands highest in Dakshina Kannada (77.3) and Bangalore Urban (77.4) though these are still lower than the rates prevailing in the states of Kerala, Maharashtra and Tamil Nadu.

HDR 2005 states, "The coefficient of correlation between the population below the poverty line and female literacy is 0.62", indicating clearly that poverty and literacy are closely linked. There is likely to be greater improvement in women's status when their literacy levels rise.

Female literacy is also directly associated with rates of fertility, population growth, infant and child mortality and shows a positive association with female age at marriage, life expectancy, participation in modern economic development and improvement of female enrolment in schools.

However, we find that the female literacy rate is increasing more swiftly (at the rate of 28%) than the male literacy rate (14%). This shows that overall, the gender disparity in literacy in the state is declining rapidly.

Regional Variations

Inter regional variations are still considerable with Raichur district having the lowest female literacy rate (35.93%). Literacy rate among males is higher than that in females both in rural and urban areas of the state and as well as in districts. The literacy rate in rural areas has gone up from 47.69% in 1991 to 59.68% in 2001 and in urban areas from 74.20% in 1991 to 81.05% in 2001.

The coastal districts of Dakshina Kannada (83.35) and Udupi (81.25), along with Bangalore Urban district (82.96), lead the state in literacy, while the three Hyderabad Karnataka districts—Koppal (54.10), Gulbarga (50.01) and Raichur (48.81)—as well as Chamarajanagar (50.87) are lagging behind. These districts are also well below the All India literacy rates in male, female and total literacy levels.

Challenges Facing Literacy Programmes

With one third of the state's population being illiterate, the state's mass education machinery faces a host of problems while implementing literacy programmes in the field. Officials say, "There are several unemployed literate youth around us. The illiterates use them as examples." Some of the illiterates ask the field staff:

- Can literacy give my daughter a job?
- Can literacy plough our fields?
- Will literacy give me food today?"

Along with the literacy programme, the department has started giving vocational training like sewing and stitching as a part of the Income Generation Programme (IGP) to attract illiterates.

Adult Education (AE)

The aim of AE is not only to facilitate achievement of literacy, but also development and upgradation of skills, and to provide space and opportunity for neo literates post literacy and continuing education.

Historical Background

Karnataka (formerly Mysore) was one of the first states in the country to implement a comprehensive literacy programme to eradicate illiteracy in the state. Night schools were run in some Hobli schools as early as 1870. They were also started for the inmates of jails in 1872–73. Some night schools with a minimum strength of 10 pupils were also eligible for grant-in-aid.

Sir M Visveswaraya, the Dewan of princely Mysore, was a visionary who strongly believed in universalisation of education for the development of the state. He introduced several measures as far back as 1912 for the purpose: starting a number of night schools in the state to spread adult literacy; introducing compulsory primary education as early as 1913.

By 1940, the literacy movement in the state took deep roots and various agencies, individuals, colleges, students and the Mysore University enthusiastically took part in the literacy programmes. The movement got a fillip with the formation of the Mysore State Adult Education Council. Hence, at the time of independence, literacy among the people of princely Mysore state was 20.3% as against the country average of 16.6%.

The Mysore State Adult Education Council

AE as an organised movement took off in the state in 1942 with the formation of "The Mysore State Adult Education Council" in Mysore.

The Council aimed at functional literacy. Besides establishing literacy and AE centres throughout the state, it published graded literacy books and conducted research in literacy and AE methods. The activities

of the council were conducted through 3 departments, each working under the control of a secretary and assisted by a Committee of experts. The first president of the council was the noted Kannada scholar Sri B M Srikantaiah.

The special features of the Council's work were –

1. Planning and implementing pre literacy propaganda;
2. Conduct of a 3-weeks literacy course in which adults acquired the ability to read and write;
3. A post-literacy course extending for a further 3 months in which adults were able to read a newspaper and make simple calculations;
4. Publication of graded textbooks for teaching adults and preparation of literacy posters;
5. Training of AE workers through training camps and seminars;
6. Bringing out AE bulletins to enlighten the public and educationists on the progress of Adult Education in the state.

Simple adult reading charts in Kannada were also prepared by the Council. The classes were conducted by school teachers and senior students. Book clubs were formed so that the reading habit was maintained in adults. A weekly newspaper "Belaku" and a monthly magazine called "Pustaka Prapancha" were published for the benefit of the neo literates, literacy classes and the book clubs. Regular rural libraries were opened in larger villages. By 1956, there were 10 central libraries, 321 branch libraries, 2304 rural libraries and 7 circulating libraries in the princely Mysore state.

The Adult Education Council was dissolved by the state government in 2002 and the assets and liabilities of the council were taken over by the Directorate of Mass Education.

Establishment of Vidya Peethas

The Council first started a Vidya Peetha in 1947–48 at Nanjangud on the lines of the Danish Folk Schools. This institution was intended to train people in leadership and give vocational training to rural youth in agriculture, animal husbandry and cottage industries such as tailoring, weaving, mat making, bee keeping, etc. in addition to general education.

Recognising the invaluable work done by the council, international institutions like UNESCO, Government of Denmark and Ford Foundation started providing financial assistance to it. With these grants, the council started a total of 12 Vidya Peethas, one in each district during the period 1956 – 59.

The number of Vidya Peethas increased to 16, and are now supervised by the Department of Mass Education. These Vidya Peethas are giving 6 months training to rural youth in tailoring, embroidery, dress designing, computer education, and other trades. During 2006 – 07, call centre training was organised in 13 Vidya Peethas in collaboration with reputed private sector organisations. 100 rural youth were trained in each of the 13 Vidya Peethas.

State Resource Centre, Mysore

The institution, aided by GOI, is headed by a Director. It produces AE literature, teaching-learning material for neo literates and teachers' guides, and supplies them to all the Zilla Saksharata Samitis (ZSS). It also arranges training programmes and conducts workshops.

Establishment of the Department of Adult Education

Literacy was given priority status very late, three decades after independence.

In 1978, the GOI launched the National Adult Education Programme. The programme included the constitution of State Boards of Adult Education. The Karnataka Board started functioning from 2 November 1978, paving the way for the creation of a separate Department (Directorate) of Adult Education.

The mission of this Directorate was to provide lifelong learning opportunities to all non-literates, neo-literates and literates in the age group of 15 to 35 years to create a learning society. The Directorate of Adult Education was later renamed as Directorate of Mass Education (DME).

The posts of District Adult Education Officers (DAEO) were created in all the districts under the Director of Adult Education. The DAEO works as the Secretary of the ZSS under the ZPs and coordinates the implementation of the literacy programmes in the district.

Zilla Saksharata Samithis (ZSS)

ZSS is registered body meant to implement the literacy programme at the district level. The district-in-charge minister is the honorary President of the committee. The Chief Executive Officer (CEO) of the ZP is the chairperson of the ZSS. All AE programmes are implemented through these samithis.

Karnataka State Literacy Mission Authority

This is an autonomous organisation established by the state government for implementation of literacy programmes. It started functioning from 18-03-1995. The state government selects and nominates a person from public life as the President of the Authority. The Director of Mass Education is the Member Secretary of the organisation.

Rural Functional Literacy Programme

In 1978 the Rural Functional Literacy Programme was started in 13 districts. A State Resource Centre was established to prepare materials for the AE Programme. The non formal stream of education was advocated under the "Akshara Sena" programme in 1984 which envisaged the opening of 3200 non formal education centres (NFEs). This target seemed unrealistic as NGOs were found concentrated in urban areas and requirement of NFEs was more pronounced in rural areas.

The Directorate involved voluntary agencies in the task of implementing literacy programmes and issued timely directions and guidance to district teams as and when required. Along with the central programmes, the Department also implemented state sponsored programmes like *Akshara Sena* and *Akshara Deepa*. The 'Karnataka Literacy Experiment' from 1980 to 1990 was designed to achieve functional literacy among adult non-literates.

The National Literacy Mission

The next major initiative "The National Literacy Mission" (NLM) was launched in 1988. The NLM also could not make a spectacular impact as the increase in literacy levels between 1991 and 2001 in the state was only 10 percentage points. The literacy rate in Bijapur (where TLC was implemented) increased only marginally from 56.55 (1991) to 57.01 (2001).

The Total Literacy Campaign (TLC)

Karnataka then implemented the TLC, including the *Kannada Nadu Sakshara Nadu* program sponsored by NLM and the state government. The TLC was designed as a people's movement involving people from various sectors.

The TLC was taken up in Dakshina Kannada and Bijapur districts first in 1990 - 91 and was later extended to the entire state. The NLM sanctioned 23 projects which aimed at making 80 lakh people between 9 and 35 years of age literate. TLC succeeded in making 41.6 lakh people literate. The project cost was shared by the state and the centre in the ratio 1:2.

All the districts completed TLC and, except Gulbarga, all of them passed through the post-literacy phase between 1990–91 and 1999–2000.

Post Literacy Campaign (PLC)

The objective of the programme is to sustain and continue the gains from the TLC and to prevent the neo-literates from lapsing into illiteracy. In addition to this, as a supportive measure, Jana Shikshana Nilayas and Continuing Education Centres (CEC) are linked to supplement the PLC. In most of the districts, emphasis is laid on developing skills of neo-literates and giving them a working knowledge of population education, afforestation, small family norms, savings, etc. The ZSS planned and implemented these PLCs in districts.

Due to the progress shown in implementation of the literacy program and new innovation and implementation strategies, the state was selected for the UNESCO-NLM 2002 Award.

Jana Shikshana Nilayas

In order to encourage and sustain the reading habit, 1175 Jana Shikshana Nilayas (which functioned as local libraries) were set up with central aid under the RFLP scheme. The state also established 333 Nilayas with state government aid. The aim was to help neo-literates to sustain interest in reading and continue education without lapsing into illiteracy.

Implementation Committees

The following committees were set up by the state government for the implementation of AE programmes effectively.

1. The Karnataka State Literacy Mission Authority
2. Saksharata Supervisory Committee headed by the Chief Secretary of the State
3. State Level Academic Committee headed by the Director, Mass Education

The Adult Education Programme Objectives

These programmes have been implemented with the following objectives:

- To improve the overall literacy percentage in the region;
- To provide literacy to adults in the age group of 9–35 years;
- To encourage parents to send their children to school;
- To encourage inculcating national values such as small family norms, small savings, protection of the environment, promotion of communal harmony, etc.

Conduct of Awareness Programmes

Mass mobilisation drives were conducted to create a conducive learning atmosphere. Awareness programmes were conducted at the village level. *Kala Jathas*, *Cycle Jathas*, Street plays, *Saksharatha* songs, etc. were organised in every village to motivate the non-literates and volunteers to participate in the teaching-learning process. Surveys were conducted for the identification of the non-literates and volunteers. The volunteers had been trained to provide literacy skills to the non-literates and to bring about awareness among them. The teaching-learning process was monitored from the learning centre level as well as the district level.

Internal and external evaluation of the programme as a whole was also conducted. The main outcome of the programmes was that, among the 77 lakh identified as non-literates in the 9–35 age group, 42 lakhs were rendered literate. Those people gained additional awareness apart from the literacy skills. Many of

them became self-motivated to continue further education through open school and distant education modes.

Continuing Education Programmes

Continuing education programmes launched in the state from 2000–01 were meant to reinforce, strengthen and develop literacy and other skills gained by neo-literates through non-formal, informal and literacy programmes. They were designed to

1. Provide lifelong education by creating a learning society;
2. Provide comprehensive educational facility in each village for retention, upgradation, continuation and application of literacy skills to enable learners, neo-literates, dropouts and all those who are interested in continuing their learning beyond basic literacy.

The programmes are being implemented through ZSSs of the districts. The Panchayat Raj Institutions, NGOs, Yuvaka-Yuvathi Mandals and community-based organisations are also involved in these programmes.

Grama Saksharatha Samithis/Village Development Samithis are formed to manage the CECs and the nodal centres. For every 2000 population one CEC and for every 10 CECs, one nodal CEC have been established.

The CECs and the nodal CECs are manned by the prerak and the upaprerak, who are members of the local community called Grama Saksharatha Samithi. They are paid a nominal honorarium. The central government bears the entire expenditure for the first 3 years of the continuing education program. For the fourth and fifth year 50% of the expenditure is borne by central government and the remaining 50%, by the state government. After 5 years, it is envisaged that the community itself will sustain the program.

Therefore, from the beginning of the first year itself, the local communities which manage the centres, have started creating corpus funds to ensure smooth running of the centres. An improved teaching-learning module has been evolved for use within the area covered by the CEC.

The CECs and the nodal CECs have the following multi dimensional activities/facilities.

- Learning centre
- Reading room
- Library
- Charcha mandal (Discussion forum)
- Information centre
- Development centre
- Training centre
- Cultural and recreation centre
- Sports centre
- Community service centre

The continuing education programme has been set on a much higher level of functional literacy—ability to access and process information and confidence in expression. Under the umbrella of the Karnataka State Literacy Mission Authority, it is being implemented throughout the state. The Authority approved 28 continuing education proposals and submitted them with its recommendation for sanction to the NLM.

Until 2006, 27 projects were sanctioned in 26 districts. Out of a total of 15,000 CECs and 1,500 nodal CECs sanctioned, 11,600 CECs and 1340 nodal CECs were established. The NLM sanctioned a sum of Rs 87.40 crores for this project.

Under the continuing education programme, target specific activities such as Equivalency Programme, Income Generating Programme, Quality of Life Improvement Programme, Individual Interest Promotion Programme, etc., are also being conducted. These programs are need based and have been conducted in the CECs at the village level.

Establishment of Self Help Groups (SHGs)

With the objective of empowering women, SHGs have been formed in the vicinity of CECs. The *preraks* and *upa preraks* motivate women engaged in different vocations to form the SHGs. An account of the money collected among the group members is maintained and they can avail loan facilities from the same for productive purposes. Huge savings have thus been generated. In fact, some of the ZSSs have taken special care to promote these SHGs. For instance, 1,500 SHGs operate under the umbrella of ZSS, Hassan and their savings run to about Rs 10 crores. They have not only formed village forums but plan to take it further to the taluk and district levels and form SHG federations. Also in the pipeline is a plan to open a women's SHGs Bank. On the same lines, the ZSS, Bidar has formed 500 SHGs and their savings run to several crores of rupees.

Jana Shikshana Samsthan

Seven Janashikshana Samsthans are functioning in the state for the benefit of neo-literates. They have been funded by the NLM Authority. They have action plans for developing vocational skills among neo-literates and have conducted a variety of training programmes such as dressmaking and designing, candle making, knitting, embroidery, *mehandi*, beauty culture, etc. Out of 4400 neo-literates enrolled, 1900 have completed the training successfully.

Camp Literacy

During 2006 – 07, a new concept of fast learning was implemented in camp-based literacy programme. The continuing education programme took 5 months to make a person literate. For non-literates, especially women, it was difficult to attend classes continuously for 5 months. Hence, the department proposed to start 12,000 camps called "Shigra Kalika Shibira". Illiterates were encouraged through awareness campaigns to attend these camps. It was proposed to make 6 lakh people literate under this programme during the year.

Literacy through Students

This programme has been in operation from 2005 – 06. Students studying in IX standard and PUC I year in all educational institutions are involved in this programme. Each student is encouraged to take the responsibility of changing 2 non literates into literates. Such students are awarded 20 and 10 marks respectively as internal assessment marks. During 2006–07, 7.45 lakh non-literates were targeted under the programme.

New Initiatives in the State Literacy Programme

The state has set itself the goal of achieving 85% literacy by 2007. To achieve this, the implementing mechanism has to tackle the staggering illiteracy among women, SCs/STs, minorities and backward communities. The female literacy rate in Gulbarga and Raichur is below 40% and in Bagalkot, Bijapur, Koppal, Bellary and Chamarajanagar, it is below 50%. In the slums of the cities, the literacy rate is below the national level.

A Fresh Look at the Strategies

In the light of the shortcomings observed during the implementation of the earlier programs and the lessons learnt in the process, especially in the educationally backward districts, the state literacy programme tried to adopt the following fresh strategies to achieve the overall goal.

The state was divided into different parts based on the region, prevailing literacy rate, especially among women, and region-specific programmes were taken up.

1. The 7 north-eastern districts, namely, Bidar, Bellary, Bijapur, Bagalkote, Koppal, Gulbarga, Raichur and the southern district of Chamrajanagar (where the literacy rate was below the national literacy rate and female literacy rate below 50%) were formed into one zone.
2. Districts like Belgaum, Chitradurga, Bangalore Rural and Gadag where literacy average was below the state and national literacy average were clubbed into one zone.
3. Districts like Kodagu, Uttara Kannada, Shimoga, Chikmagalore, Dharwar, Hassan, Haveri, Davanagere and Tumkur where the literacy rate was above the state literacy average were brought under one zone.
4. Three districts of Coastal Karnataka, namely, Dakshina Kannada, Udupi and Uttara Kannada where the literacy rate was very high were formed into one zone.

For the improvement of female literacy, special care and strategy was adopted.

1. A subcommittee for monitoring female basic literacy was constituted at all levels.
2. NGOs such as Mahila Mandal and Yuvathi Mandal and the various departments were involved in providing adult literacy to women and basic literacy to girls respectively.
3. Mahila Samakhya was entrusted with the job of mobilising and strengthening women's organisations at the village level for literacy, health and income generation programmes.

Linkage was also established with the Women and Child Development Department to enable AWWs participate actively in the women's literacy programme for the improvement of female literacy through the Stree Shakthi programme. Special care was taken to encourage SC/ ST/backward and minority women to participate actively in the literacy programme to attain basic literacy for improving their quality of life.

Programme Activities

- Street plays and 'jatha' programmes were evolved to focus on the importance of female literacy in the development of the individual and the society.
- A special incentive was given to non-literate women to attain basic literacy.
- SHGs were utilised for providing literacy to women, especially among SC/ST/minority groups.
- Parents were educated to send their girl children in the age group of 6-14 years to school.
- Parents and husbands were encouraged to send their girls and spouse respectively to adult literacy classes.
- Panchayat Raj Institutions were involved and the implementation of the programme was entrusted to gram panchayats as grassroots level implementing units and monitoring bodies.
- The continuing education programme was implemented through CECs and nodal CECs. The upa preraak, who looked after the literacy programme, was entrusted to run the literacy classes and to monitor those run by volunteers.
- The services of NGOs were fully utilised in implementation of these programmes. District-wise NGOs were identified and involved along with the district Shiksha Mission. They were utilised for implementation, training, monitoring and evaluation of the programme.
- The actively functioning village-based organisations like Yuvaka/Yuvathi/Mahila Mandali, Farmers Associations, SHGs, were identified and entrusted with the literacy promotion work.

- To make the programme more effective, a group of educationists, experts, professionals, advisers was formed to seek timely guidance, suggestions and also collaborations. Thus they functioned as resource group.
- Efforts were made to secure the active participation of the people's representatives, government and non-government officials at all levels.
- To encourage voluntary teachers to impart literacy in SC/ST/minority colonies, the scheme of *Guru Dakshina* was adopted whereby a payment of Rs 101 was made to the volunteers for making each non-literate, literate after final evaluation.
- To target the large number of non-literate women in SC/ST/minority communities, an incentive scheme in the form of prizes was also introduced.

Through a systematised implementation of the programme, the literacy rate in Karnataka was expected to increase by 3.50% in 2003, by 4.75% in 2004, by 4.25% in 2005, by 3.50% in 2006 and by 2.96% in 2007.

Vayaskara Shikshana Pade

A special women's literacy programme called '*Vayaskara Shikshana Pade*' at village panchayat level in 8 districts of the state was taken up during the year 2003-04 is its first phase. This was expected to cover about 200,000 women non-literates and 20,000 women volunteers in about 4,000 villages under 1,490 *gram panchayats* of 8 districts. A sum of Rs 1 crore was allocated for this task. The amount included incentives for both learners and volunteers.

The Directorate of Mass Education was set to launch 3 new programmes by the end of 2007.

- Literacy through radio
- Literacy through computers
- Literacy through Edusat

Deficiencies of the AE Programmes

The physical targets could not be achieved due to following reasons:

1. Failure of campaign machinery
2. Faulty identification of fulltime workers
3. Frequent transfers of district level and taluk level officers
4. Faulty identification of illiterates
5. Migration of learners
6. Faulty identification of learning period

Thus, concentrated efforts are needed to bring more women into the literacy fold,

The state has to travel a long way and cross many milestones before the distant dream of achieving total literacy is realised.

Chapter 17

Equity Issues in Education

"Even as the state has been notching up significant landmarks in the drive towards universalisation of elementary education, it is also striving hard towards achieving equality in providing educational opportunities, cutting across the long-standing social, economic and geographic barriers, as also the gender gap, that have separated the have-nots from the haves for so long..."

Introduction

NPE 1986 states: "...up to a given level all students should have equal access to education of comparable quality, that whatever the socio economic background of the children they get opportunities to achieve success of a level, which is equal to the level of children from comparatively better of sections of society and the country moves pace in the direction of a common school system."

In line with these objectives, the state tried to tackle various equity issues in education through several innovative programme initiatives. However, it had limited success. The following facts are significant indicators when discussing the equity issues.

1. Karnataka is a medium sized state with average social and economic indicators. A visible decline in population growth in the state between 1991 and 2001 can be seen.
2. The state's performance in health and education compares well with Andhra Pradesh, but lags behind Kerala and Tamil Nadu.
3. Though the state's literacy rate (66.64–2001 figures) is slightly higher than the national average (64.80), one third of the population is still illiterate with more than 63% of the Schedule Caste and 58% of the Schedule Tribe population falling in this category.
4. Male literacy is higher than the female literacy rate at all levels (state, district and sub district levels) and across social groups, which is an important factor in perpetuating inequalities (Table AE 4). The difference in state's male literacy and female literacy (56.90) is a good 20 points which is also a cause for concern. The reasons for the lower female literacy are gender bias, caste, class and geographical factors.
5. Almost all studies point to poverty as a significant factor contributing to inequality. One such study finds that below a certain threshold, poverty combined with unattractive schooling facilities does play a role in restricting enrolment and retention (Sub sector Study on Equity).
6. SC/ST children consistently perform below the state average as is evident from the X standard Public Examination results every year. There is a difference of 14–16% in the performance of SC/ST and non SC/ST students.
7. There is also a considerable gender differential with more girls than boys dropping out at all stages of education.

The issues of equity in education in the state are discussed under the following four broad areas:

1. Inequities in the education sector;
2. Gender disparities in education;
3. Regional disparities in education and;
4. Social disparities in education.

1. Inequities in the Education Sector

Education which is considered to be a powerful equaliser is also responsible for creating inequities in society and faster than ever before. The growth and rapid expansion of the education sector as a whole has resulted in inequities in the achievements of various social groups. It becomes even more glaring as we move from secondary to pre university to higher education sectors.

The emergence of Bangalore (and Karnataka) as the Silicon Valley of India (to a large extent), is the result of the rapid expansion of higher and technical education sectors in the state. The liberalisation of the Indian economy and subsequent globalisation increased the potential for the spread of knowledge-based technology industries in the state through local and international initiatives and investment.

However, this explosion in Information Technology has benefited only a very insignificant section of the state's population. It has perpetrated a separate class of people who could be called the neo rich and who have a better spending power than the middle class. Nevertheless, it highlights the potential of technically skilled manpower that it has created in the process of economic and social development.

Reasons for inequalities in educational outcomes of children of disadvantaged groups

There are many factors that negatively influence the educational outcomes of the children of poor and disadvantaged social groups which, in turn, contribute to the inequality in educational outcomes. These are:

1. Poverty, which prevents parents from supporting their wards financially;
2. First generation learners, as parents are either not educated or have very low education levels;
3. Lack of supportive home environment;
4. Irregular school attendance, as children are frequently withdrawn from schools to support parents for paid/unpaid work outside/within homes;
5. Poor child health and nutrition problems which keep children away from school apart from affecting concentration while in school;
6. Seasonal migration of agricultural labour, which affects the academic progress and continuation of children's education;
7. Reluctance of rural parents to send mature girls to school;
8. Sibling care by elder girls.

There are several factors within the existing system which reinforce the disadvantages these children face in school—indirect harassment by children of higher castes, social attitudes, behaviour, discrimination practised by teachers within the classroom, etc. This situation has naturally led to.

1. Students tending to receive poor quality classroom instruction;
2. Teachers tending to have lower expectations from these students;
3. Teachers tending to devote less time and attention to them in the classroom;
4. Lack of expression and confidence in these students;
5. Poor quality of education in government schools.

All these factors lead to dropout of these children at the upper primary, secondary and higher levels of education.

Another important issue is the medium of instruction. The children of these groups who have studied in Kannada (or mother tongue) medium in government schools find it difficult to pursue higher levels of education in English.

Inequities in Elementary Education

The UEE has ensured universal access and enrolment. The state has a no-detention policy up to the IV standard which has benefited all the social groups. Although automatic promotion eliminates repetition and increases years of schooling, it has a significant impact on the quality of education. However, in the Karnataka context, the no-detention policy has not helped to increase the mean years of schooling which stood at 4.25 years in 2004 (DES Sample Survey). (Table G T 7). As regards enrolment, retention, completion and achievement, huge gaps exist between the rich and the poor, but the department has not made any effort to collect information on the same. Studies show that education inequity between the rich and poor is the greatest.

Enrolment and Dropouts

The overall dropout rates have shown a declining trend at the lower primary level but are still a cause for concern at the upper primary and secondary education levels. This issue has been discussed in detail in the relevant chapters dealing with elementary and secondary education.

The CAG report for 2006 points out that though the school dropout at the primary level is 7.89%, at the higher primary level it is still high at 24.68% and this continuing trend over the years indicates that the universal goal of achieving zero dropout stage cannot be achieved even by 2010.

Regularity in School Attendance

Several studies have shown that mere enrolment is not a valid indicator as the enrolled child may not attend school or may be irregular due to various factors. This is particularly true in rural backward areas and urban slums. Regular visits to schools in NEK over a period of 2 years showed only 70% daily average attendance, with the remaining 30% of children being irregular due to various reasons.

Retention at Different Stages of Education

In 2000 - 01, the Eduvision document made an estimate of the proportion of children attaining different classes. It also gave an idea of the number of children who dropped out of the system at different stages of education. It was found that only 65% of those enrolled in I standard reached VII standard (of elementary cycle) while 43% reached VIII standard. The situation has improved only slightly in recent years.

Table 17.1
Children Retained at Different Stages of Education

<i>As % of those who enter I Standard</i>	
Enter Standard I	100
Reach Standard IV	89
Reach Standard V	85
Reach Standard VII	65
Reach Standard VIII	43
Reach Standard X	33
Pass Standard X	25
Enter PUC	16
Pass PUC	12
Enter Higher Edn	10

Source: Eduvision 2002

Secondary Education

On a rough estimation, if the average number of children joining I standard eight years ago was 13 lakhs (2005 – 06 SSA I standard enrolment figures – 12.19 lakhs) and taking the actual enrolment in 2005–06 in VIII standard (which is 8.41 lakhs), the percentage of children not reaching VIII standard is still above 30%. This means that 30% of the child population in the 14–15 years age group are not attending secondary school from VIII standard onwards. A majority of these children are from socially disadvantaged groups who find other vocations more attractive than schooling.

Karnataka's GER for secondary education shows that at least 60% of children in the age group of 14–18 are outside the secondary school (which includes higher secondary stage) system. (Table SE 2)

The sub sector study report on Secondary and Pre university Education (2001) points out that wastage in secondary education is of the order of 73.77%. In other words, nearly 3 out of 4 children who enter secondary education sector with the aim of getting the SSLC certificate do not get it.

However, this analysis has not taken into consideration the results of the supplementary and other subsequent examinations. The situation has definitely improved since then with a higher percentage of the passes in X standard public examination in recent years. (Table SE 16). But wastage and stagnation is still an important issue at the secondary education level.

Pre University Education

As per figures available in 2006, only 22 out of a 100 children in I standard reach the + 2 stage. (only 12 are likely to pass out of this stage as the pass percentage in the P U course is only around 50 %.)

Table 17.2
Enrolments in I PUC

Year	No. Passed in SSLC (X Std)*	No. Enrolled in I PUC*	Percentage Enrolled	Percentage Discontinued
1996	2.72	2.43	89.38	10.62
2006	5.64	4.27	75.70	24.30

Source: Annual Reports

* Figures in lakhs

Table 17.2 shows that not all students who pass the X standard public examination enter PUC as there are other avenues like admission to Industrial Training Institutes, polytechnics and other diploma courses for those who wish to take up jobs. (The fate of failed students in the SSLC examination is altogether a different matter). The percentage of students entering the Pre university course also shows a declining trend when we compare figures of 1996 with those of 2006. Further, it is really a matter of great concern that only 9% of the youth population (in the age group 17–24) is enrolled in higher and technical education institutions.

Education and Occupational Levels of Parents

The sub sector study report on Secondary and Pre university education (Table P U 7) has pointed out that 35% of fathers of children studying in poor colleges are illiterate. The comparison between poor and good colleges indicates that a majority of parents of children studying in good colleges are better educated.

Similarly, the proportion of parents in diverse non agricultural operations (Table P U 8) of children from good colleges is very much higher than that of parents of children from poor colleges.

Nature of Duties Done by Students of P U Colleges

The Report has further analysed the nature of duties that the students of P U Colleges have to perform outside their studies. This is a hindrance to students' performance. The report states (Table P U 9) that the most important duty of students of poor colleges is to bring home water from a distance and perform odd jobs like supply of milk/paper to supplement the family income. About 50% of boys and 34 % of girls are engaged in this activity. The other major duty is assisting the parents in work/agriculture/business, etc. A higher proportion of young girls from poor colleges also has to take care of siblings and cooking.

Special Children

The data on special children reveals that roughly one per cent of the child population suffers from disabilities. This is probably a gross underestimation. Special children also are disadvantaged as they are denied equal opportunities in education. In poorer families, a significant number of special children are subjected to deprivation and hardship.

The sub sector study on elementary education has identified the following issues relating to provision of equal opportunities for education of special children.

- Lack of proper infrastructure for identification of physically challenged children and lack of awareness among parents about incentives being provided to them for their welfare and education;
- Need for flexible curriculum in de-segregated schools;
- Individualised instruction for all learners with special needs;
- Special support services in collaboration with other departments;
- Compensatory and remedial measures to suit the special needs;
- Lack of adequate training for all primary teachers in methods to handle specially challenged children;
- Identification of gifted and talented children and to prepare a program, to nurture their diverse and creative abilities.

The government has set aside a certain percentage of seats in almost all educational institutions for the physically challenged children.

Quality of Education

The massive expansion of the education system was not accompanied by measures to ensure quality. The HDR 1999 reports that 86,000 teachers were appointed during the four year period 1994 – 95 to 1997 – 98. Such a huge recruitment (in such a short period) itself is an indicator of poor quality of teachers. There have been no efforts to evaluate the teachers or grade them. Most of the additional resources are being spent on salaries. The no-detention policy, inadequate supervising and monitoring mechanisms and school level examinations do not, in any way, contribute towards improving quality. Poor quality of schooling (poor infrastructure, de-motivated teachers, significant teacher absenteeism, high pupil-teacher ratio, poor teaching methods, unattractive school environment, low achievement of children, low teaching time, corporal punishment) is one of the main reasons contributing to inequities in education.

The sub sector study on the role of private sector in education has found that there is not much difference between government and private schools as far as equity issues are concerned. It says that in some districts, SC/ST groups seem to prefer government schools, probably more out of economic reasons.

Failure of the education system to respond to the needs of the society has also a significant influence on the education inequalities among children of various social groups. Formerly, there was no reliable data available on performance of children in elementary schools. The only available data was the achievement surveys of DPEP (BAS, MAS, TAS) which showed less than 50% achievement levels in DPEP districts (Chapter VII).

The KSQAO evaluation in January 2006 showed that performance of students in II standard was 67%, in V standard 49% and in VII standard 48%. (Table 2.4). Girls had performed marginally better than boys. This shows that as the students proceed from lower primary level to upper primary level, their performance shows a downward trend. This is far from the learning achievement objective of 80% of enrolled and attending children achieving 80% of competencies. Even the Annual Status of Education Reports (ASER) for Karnataka reinforce this view. (Table EE 37).

At the secondary level also, there is a significant gap in the performance of students between government and private schools, between boys and girls, between rural and urban children, between general and SC/ST students. (Table SE 16). Even though the pass percentage at the X Standard level has improved, it is still around 50% at the Pre university level which is a matter of concern as it involves significant wastage and stagnation at this level. In spite of massive expansion of the education system in the state, the labour force is poorly educated. The World Bank report on labour market states that the employers feel that the candidates passing out of our education institutions lack the much needed skills for employment. The sub sector study report (2002) on "Equity in Education" has analysed the average years of schooling by the employment sector in Karnataka.

Table 17.3
Average Years of Schooling by Employment Sector

<i>Employment Sector</i>	<i>Years of schooling</i>
Agriculture	1.98
Mining and quarrying	4.48
Manufacturing I	3.14
Manufacturing II	4.54
Manufacturing III	8.13
Electricity, Water, Gas	2.79
Construction	7.12
Trade	4.79
Transport and communication	6.05
Services 4	11.36
Services 5	7.46
All	3.21

Source: Sub sector Study on Equity in Education

The situation has improved only marginally since then, as, according to HDR 2005, the mean years of schooling are still 4.25.

Issues Highlighted by the Sub sector Study

The sub sector study report on elementary education has listed some of the following issues that need to be addressed with reference to education inequities.

1. Integrating socio cultural perspectives with a multilingual and multicultural orientation in framing policies, programmes, curriculum, textbooks and classroom practices.
2. Create alternative systems of schooling for out-of-school and working children.
3. Bring down dropout rates (especially that of girls) further in upper primary and secondary education sectors.

4. Improve the design, coverage and delivery of incentives.
5. Ensure quality in education institutions through proper supervision and monitoring.
6. Increase involvement of NGOs in departmental programmes.
7. Strengthen the pre school component of AWCs which will in turn have a beneficial effect on primary education.
8. Alienation of teachers from the community (as they usually do not stay at the places of their work) should be minimised.
9. Need for special awareness programmes for children or their parents having terminally ill diseases like AIDS.
10. Sustained community mobilisation efforts over a longer period of time for critical change in conventional attitudes towards schooling, especially among SC/ST children.
11. Local communities/NGOs and other affluent sections of society to adopt schools having children from disadvantaged groups.

2. Gender Disparities

The situation of the girl child in Karnataka is a matter of serious concern. An adverse sex ratio, high malnutrition and maternal mortality rates, poor school enrolment levels, high dropout rates and low skill levels with low value work are indicators of a fundamental preference for the male child and a belief that girls are a liability rather than an asset. The NFHS notes that preference for sons is fairly strong in Karnataka, more so in rural areas (48%) than in urban areas (34%).

Gender plays a very significant role in educational disparities. Though the gender gap in literacy rate in the state has declined from 23 percentage points in 1991 to 20 percentage points in 2001, it is still very high. This is mostly due to cultural and economic constraints and is known to decline with awareness and enhancement of access to education.

There are several reasons for gender gaps in enrolment—parental attitudes, girls engaging in household work, younger sibling care, rural parents unwilling to send mature girls out of their habitations, inappropriate attitude and behaviour of male teachers, fear of sexual harassment and of safety.

Gender Disparity in Enrolment

The sub sector study on "Equity" estimated that out of 100 children entering I standard only 62 children entered VII Standard in 2002 (with 65 boys and 59 girls). It also estimated that the gender disparity (classes I to IV) was narrowed down to 2% in rural areas and 1% in urban areas. The dropout rates for girls in I to X standards was still a sizeable 43.60 (2006) and the gender disparity percentage was 11.30.

At the Pre university level, the gender differential in enrolment decreased from 0.42 in 2002 to 0.31 in 2006 with 1.98 lakh girls being enrolled in a total enrolment of 4.27 lakhs. The gender disparity percentage was 7.25 which is also a matter for concern. (Refer Table 11.4).

The MHRD Report (2006) places the gender parity index in secondary education (classes IX to XII) at 0.94, which is better than the all India figure of 0.80. But Karnataka is still behind neighbouring states which have better gender parity ratios (Table SE 3) – Kerala 1.01 and Tamil Nadu 0.98.

Similarly, in Karnataka, 87 (Table SE 4) girls were enrolled for every 100 boys in secondary education (classes IX to XII) as per the MHRD report. This figure, though better than the all India figure of 70, is still lower than the figures of Kerala (99) and Tamil Nadu (94).

Child Sex Ratio

The child sex ratio is another significant indicator of gender disparity and it is declining in Karnataka for the past several decades as in other states. From 963 in 1981 to 960 in 1991 it showed a slight improvement. It stood at 965 in 2001. It is better than the all India figure (933), but still lower than that of neighbouring states—Tamil Nadu (986), Kerala (1058) and Andhra Pradesh (978). According to HDR 2005, with the exception of 8 out of 27 districts, the ratio is worse in urban areas than in rural areas.

Gender Development Index (GDI)

The GDI measures the level of women's development relative to men. In Karnataka it was higher (0.637) than the all India figure of 0.609 in 2001. Karnataka is sixth among the Indian states in gender development and seventh in human development.

The state's rank in terms of GDI is 99 against the country's which stands at 103. However, the pace of reduction of gender disparities is rather slow. The difference between the highest and the lowest values in the districts has narrowed from 53% in 1991 to about 38% in 2001, showing a one third reduction.

One significantly positive trend is that the age at marriage for girls has been increasing at roughly a year per decade from 16.5 years in 1961 to roughly 21 years in 2001.

Participation and Performance of Girls

Traditionally, the participation of girls has been lower than that of boys at secondary and higher education levels, and this disparity exists not only among the general category but also among other social groups.

The results of various examinations show that girls consistently perform better than boys in all the examinations, even though they lag behind boys in enrolment. Policy interventions have helped more girls enter the education system and girls, who continue education, perform better than boys, even among different social groups.

3. Regional Disparities

There are disparities in human development across districts. The presence of inter district and intra district variations both in the level of development generally and human development in particular means that people's access to services is shaped by where they live, and their quality of life is determined, to a certain extent, by regional disparities.

The HDR 2005 has identified the top five and bottom five districts in Human Development Indices and change in the order of districts in HDI between 1991 and 2001.

Table 17.4
Human Development Indicators
Top Five Districts

<i>Education Index 2001</i>	<i>Health Index 2001</i>	<i>Income Index 2001</i>	<i>HDI 2001</i>	<i>HDI 1991</i>
Bangalore Urban	Udipi	Bangalore Urban	Bangalore Urban	Dakshina Kannada
Udipi	Belgaum	Dakshina Kannada	Dakshina Kannada	Udipi
Kodagu	Dakshina Kannada	Kodagu	Udipi	Kodagu
Dakshina Kannada	Shimoga	Bangalore Rural	Kodagu	Bangalore Urban
Uttara Kannada	Bangalore Urban	Udipi	Shimoga	Shimoga
Bottom Five Districts				
<i>Education Index 2001</i>	<i>Health Index 2001</i>	<i>Income Index 2001</i>	<i>HDI 2001</i>	<i>HDI 1991</i>
27. Raichur	27. Bagalkot	27. Raichur	27. Raichur	27. Raichur
26. Chamarajanagar	26. Dharwar	26. Bidar	26. Gulbarga	26. Koppal
25. Gulbarga	25. Haveri	25. Gulbarga	25. Chamarajanagar	25. Gulbarga
24. Koppal	24. Bijapur	24. Haveri	24. Koppal	24. Chamarajanagar
23. Bellary	23. Gadag	23. Bijapur	23. Bijapur	23. Bidar

Source: HDR 2005

The district-wise values of various indices (health, education, income and the HDI) as reported by HDR 2005 are given in Table G T 4. According to HDR 2005, the state's top ranking Bangalore Urban district has a higher HDI (0.753) than Kerala (0.746) and an international HDI ranking of 83 which is at par with Philippines and countries like China and Sri Lanka. Raichur, the bottom ranking district in the state, has an international HDI rank of 133 at par with Papua New Guinea and lower than Ghana, Myanmar and Cambodia.

Inter district disparities in terms of educational facilities have increased over the years. There has been uneven distribution of educational facilities across districts. This issue has been discussed in the chapter on secondary education. Even in literacy, historically, there has been a minimum 10 percentage point negative difference in literacy rates of Gulbarga division and the rest of the state. (Table AE 2).

The HDR 2005 says that there is a strong correlation between the status of economic development of a district and its HDI. But there are exceptions.

Focus on Addressing Various Regional Gaps

The 5 educationally most backward districts are ranked by HDR 2005 in terms of education index as shown below.

Table 17.5

Educationally Most Backward Districts

<i>Rank</i>	<i>District</i>	<i>Education Index</i>
23	Bellary	0.618
24	Koppal	0.576
25	Gulbarga	0.572
26	Chamarajanagar	0.570
27	Raichur	0.524
	Karnataka	0.712

Source: HDR 2005

Hence additional focus, special local-specific programmes and higher budgetary allocations are needed to bring these districts at par with the rest of the state. In the absence of such positive discrimination in the educational sector in particular, these districts will not be able to bridge the gap with the rest of the state. Another measure may be to enhance the allocation of non salary component based on a suitable formula. This will enable the state to fund the educationally backward districts on a higher scale.

Per Student Expenditure

There are wide variations in per student expenditure across districts. In 1998-99 the average expenditure per student in elementary education was Rs 1,651. In Koppal district, the per student expenditure was the lowest at Rs 966 whereas in Chikkamagalore district it was the highest at Rs 2,451. In other words, the more educationally backward the district, the lower was the per student expenditure. The main reason in this variation was the wide disparity in PTR across districts. Another reason was the existence of smaller habitations and hence smaller schools in several districts of southern Karnataka.

Disparities in Performance of Students in Urban/Rural Areas:

Children from rural areas do not have access to the same quality of educational opportunities as their urban counterparts. Most quality and higher education institutions are concentrated in urban areas and rural students are naturally at a disadvantage when it comes to admission to these institutions. Children in urban areas, specially slums, suffer multiple disadvantages with regard to nutrition, health, sanitation and access to various facilities and services including access to quality education. These problems are further compounded by existing social inequities. Rapid urbanisation has deprived urban (slum) children of food, shelter, education, health and other services. It is estimated that at least 25% of urban children belong to economically disadvantaged "at risk" groups.

Nevertheless, rural-urban disparities have been on the decline. 31.36 % of students appearing for the X standard public examination were from rural areas in 1972. The proportion has increased to 53.88 in 2000. The success rate was high in urban areas till recently but we find that this trend is getting reversed in recent years.

Table 17.6
X Standard Results

Category	1990	1995	1999	2005	2006
Rural	52.35	40.46	54.08	62.42	71.75
Urban	56.43	48.83	57.97	62.31	69.63
Total	54.33	44.98	56.72	62.51	70.69

Source: Annual Reports

In fact, the X standard examination results of 2006 showed that the rural students have overtaken the urban ones in performance.

Table 17.7
X Standard Public Examination 2006

Category	Appeared	Passed	Percentage
Rural	3,93,227	2,82,357	71.75
Urban	3,03,277	2,11,544	69.63
Total	6,96,504	4,93,901	70.69

Source: Annual Report 2006

Dr Nanjudappa's Committee Report

No discussion on regional disparities will be complete without reference to the recommendations of the Dr Nanjudappa's committee report on regional imbalances. The committee found that while the Hyderabad Karnataka districts and part of Bombay Karnataka area were underdeveloped, there were pockets of economic backwardness in some of the more developed southern districts as well.

It identified 114 backward blocks in the state and classified them as most backward, more backward and backward blocks based upon a set of criteria. (Table G T 5). To reduce backwardness in these 114

blocks, the Committee recommended the implementation of a Special Development Plan costing Rs 16,000 crores, to be spent over 8 years. Lack of political will has caused the state to release the allocated resources intermittently to these blocks.

The state first established a Directorate for Education in North East Karnataka in 2001 and subsequently established the office of the Additional Commissioner of Public Instruction in Gulbarga with a view to decentralising administration and meeting the needs of the region.

4. Social Disparities

In Karnataka, the SCs form a sizeable proportion of the state's population. There are about 101 sub castes which have been recognised as SC. This is also the single largest disadvantaged group in Karnataka and forms about 16.21% of the population of the state. Similarly, the STs form about 6.55% of the state's population.

The children of these social groups display lower attendance, lower achievement and higher dropout rates. Many of these households have lower incomes and a higher percentage of working children.

Indicators of Social Disparities

The HDI for SCs was 0.575 which was higher than that of STs at 0.539 but much lower than that of the state's figures of 0.650. The gap was of the order of -11% for SCs and -17% for STs. The disparities among these social groups are given in the following table.

Table 17.8
Indicators of Social Disparities (2001)

Category	Literacy	Female Literacy	Health Index	Education Index	Income Index	HDI
SC	52.87	41.72	0.617	0.633	0.475	0.575
ST	48.27	36.57	0.613	0.563	0.422	0.539
Karnataka	66.64	56.87	0.680	0.712	0.559	0.650

Source: HDR 2005

The indices for female population among these social groups are much lower as is evident from female literacy rates. The largest gaps are in income and education with SCs being 15% and STs 20% below the state income index, and 11% and 21% respectively below the state education index for 2001. In the matter of gender disparity as measured by GDI, SC women are better off than ST women, but this is only a matter of degree.

According to the children's census of 2005, the percentage of out-of-school children in the age group of 7 – 14 was highest among STs (2.42) followed by SCs (2.22). These two social groups had the highest percentage of out-of-school girls too.

According to a sample survey of the Directorate of Economics and Statistics (DES 2004), there was little difference between SC children (4.235), ST children (4.166) and the rest of the children (4.458) with regard to the mean years of schooling. In terms of outcomes (the performance in the X standard public examination), SCs and STs stood far lower than the others, but were found to be showing improvement year on year.

Table 17.9
Performance of SCs/STs in X Standard Public Examination

Year	All		SCs		STs	
	Girls	Boys	Girls	Boys	Girls	Boys
2001	52.44	40.22	38.09	39.05	40.47	38.24
2003	58.54	52.19	41.15	39.06	43.47	39.84
2005	66.10	59.30	50.31	47.29	55.18	49.55

Source: KSEEB

The DES sample survey (2004) revealed that the dropout rate in SC population increased with levels of education. About 50% were not literate while 17% possessed below primary education, 12% primary, 10% upper primary, 7% high school, and 2.30% had gone up to the PUC level. Only 1% held graduate or above qualifications.

The reasons for lower achievement levels of these social groups are:

1. They tend to get poor education infrastructure facilities and inadequate number of teachers. They are unable to derive full benefits from available facilities.
2. Language is a barrier in most cases as they speak a slightly different language or dialect from what is taught in schools.
3. Children experience subtle form of discrimination from upper caste students and teachers
4. Since they sometimes have their own separate and independent cultural and social identities, they find it difficult to survive in a rigid and unresponsive school system.
5. Low participation of these groups in village level committees and SDMCs is also a significant factor determining lower enrolment, participation and achievements.
6. Economically weaker communities fundamentally do not attach much value to education.

Promoting Equity in Education

Programme Interventions in Karnataka

The state government has tried area specific and population specific planning to ensure equal attention to educationally backward pockets and groups through shift in emphasis from mere access and enrolment to retention and quality education.

Along with the education department, the Departments of Women and Child Development, Social Welfare, Labour, Tribal Welfare have collaborated in implementation of several schemes, programs and interventions targeted at reducing various types of disparities. A number of incentive schemes have also been introduced.

The state government, in collaboration with the central government, has implemented many initiatives to improve educational opportunities and universalise elementary education in the state. There has been a visible improvement in several education indicators—access, enrolment, retention, participation and achievement.

The state has been able to achieve universal access and enrolment at the lower primary level. In 2006 access was 98.98% at the lower primary level whereas at the upper primary level, it was 99.19%. The state now has one of the most extensive systems of elementary schools in the country.

Along with additional infrastructure, the state has been able to provide additional teachers (female teachers to the extent of 50%). This had a beneficial impact on pupil teacher ratios, which stands at 1:34 (2006).

The secondary school system has been expanded to a large extent. While government is the dominant player in the elementary education sector, there is an increasing private sector participation in secondary and pre university education sectors. A majority of the private institutions are located in urban and semi urban areas and charge high tuition fee and donations which the socially disadvantaged sections are unable to pay. Hence, the state is focusing on opening of government secondary schools in rural areas.

The variety of program interventions (especially incentive schemes) designed and developed to promote equity are implemented uniformly across the state even though wide disparities exist by income, gender, region and social groups. Hence, these interventions have not been able to show a visible impact.

Incentive Schemes

The government has formulated several schemes targeting disadvantaged social groups—free uniforms and textbooks under Vidya Vikas scheme, scholarships, hostels for girls and SC/ST children and hot cooked midday meal scheme under Akshara Dasoha.

Free uniforms and textbooks are given to all children studying in government elementary schools and the hot cooked midday meal scheme is extended to all children studying in government and aided elementary and secondary schools. Additional incentives have been provided for girls (discussed in the section on Education of Girls).

There are several schemes funded and implemented by other social sector departments to cater to the needs of the weaker sections and disadvantaged groups—establishment of Ashram Schools, free hostels for boys and girls, free uniforms for hostel inmates, Navodaya and Morarji Desai Residential Schools for merited BC children, residential schools for minorities and SC/ST girls, scholarships, AWCs for women and children, special bridge course schools for rehabilitation of child labourers, sports schools for backward and minority children, grant-in-aid for pre-metric hostels run by private agencies, etc.

However, the scholarships and hostel facilities are limited to children of SC/ST and backward classes. There is an argument for extending such welfare measures based on economic status rather than on caste grounds, which is currently the case. Exclusion of the creamy layer from the system of incentives is another point which is much debated.

A World Bank study (1997) has pointed out that even though SC/ST and other backward classes constitute the poorest of the population, only 3% of the beneficiaries were from financially weak households and a mere 2% received the incentives on a merit plus income criterion.

Incentives for Minority Children

The Karnataka Minority Development Corporation is maintaining free hostels for minority children. It also gives a grant-in-aid limiting to Rs 1 lakh voluntary agencies for construction of hostel buildings.

The Directorate for Urdu and Minorities is maintaining Morarji Desai Residential Schools at Bijapur, Gulbarga, Ramanagaram and Mangalore to provide education facilities to minority children from VI Standard to X Standard.

The Reservation Policy

The Indian Constitution provides for promotion of education and economic interests of the weaker sections of the people and, in particular, people belonging to SC/ST. On the basis of this constitutional provision, there is a reservation of a certain percentage of seats for these sections both in admission to educational institutions and employment in government and aided institutions.

Caste based reservation has a long history in Karnataka (from as early as 1919). The reservation policy has also been influenced by socio economic considerations. D Devaraj Urs, the former Chief Minister of the state, was the architect of the current reservation policy and the roster system implemented in 1978, which was later adapted by several other states too.

Access to education, especially higher education, has been seen as the principal instrument for redressing economic inequalities between castes and social groups. Reservation currently accounts for half the seats in publicly financed educational institutions and in public sector jobs. Quotas in education and in jobs have also been given at various times for students from rural backgrounds and /or those who have studied in Kannada medium.

Quantum of Reservation

The reservation of seats in admissions is scrupulously followed in all higher education professional courses and postgraduate courses in government and aided institutions through centralised admissions under the state rules and regulations. Such rules prescribe the number of seats to be filled under the merit as well as under the reserved categories.

The socially backward people in the state are classified into various categories by Government Order No: DPAR 08 SEHIMA 95 dated 20/06/1995. This order applies to admissions and also recruitment of personnel in all government/local bodies/grant-in-aid institutions and companies/corporations/boards controlled by government. The percentage of seats reserved for them is given in the table below.

Table 17.10
Category-wise Percentage of Reservation

<i>Category</i>	<i>Percentage of Reservation</i>
I – Most Backward	4%
II (A) – Relatively More Backward	15%
II (B) – More Backward	4%
III (A) – Backward	4%
III (B) Relatively Backward	5%
Schedule Caste	15%
Schedule Tribe	3%
Total	50%

Source: DPAR Order dated 20/06/1995

Merit seats are 50% and reserved category seats are 50%.

Under all categories except Category I, the candidate is not entitled for reservation, if the candidate/parent/guardian is a serving Class II gazetted officer in the government or is in an equivalent position in public/private sector undertakings or pays income tax/ sales tax or owns 8 hectares of agricultural land either singly or jointly.

Educational Concessions

Even in the princely Mysore state, there were several incentive schemes. Merit scholarships were given to talented children from poor families, backward children, SC/ST students, girls, Muslim children, and children coming from Malnad areas, to continue education. There were scholarships for children who wished to pursue higher education.

There were different types of scholarships—deprived class scholarships, girls scholarships, scholarships for Muslims, general merit scholarships, sanskrit scholarships, military scholarships, Malnad scholarships, Pallegar scholarships, foreign scholarships to the poor and the needy. During 1995 – 96, as many as 270 scholarships were awarded by 45 endowments in the state. Besides these, there were free studentships to encourage the poor and the needy students to continue education.

At present, elementary and secondary education (in government and aided institutions) in the state is completely free. In respect of other sectors, students belonging to SC/ST and Category I are exempted from payment of tuition fees. Students belonging to economically weaker sections are awarded fee concessions and scholarships. The non government fee payable by these students is reimbursed to the institutions by the state. Under the Special Component Plan (SCP) and Tribal Sub Plan (TSP), SC/ST students studying in I year degree and diploma in technical education are provided free drawing materials. Under the Special Book Bank scheme, they are also supplied free textbooks.

Overcoming Regional and Educational Disparities

Regional disparities in education are a legacy of the past. As already stated in chapter II, the NEK region comprising the districts of Gulbarga division (Bellary, Koppal, Gulbarga, Raichur) along with the southernmost Chamarajanagar district is considered the most backward region in terms of several social, economic and educational indicators. These areas also have a higher proportion of SC/ST population than the state as a whole. They are economically poor leading to seasonal migration of agricultural labour and many social practices like child marriage and devadasi system.

Even within the NEK region, some educational blocks like Shahpur, Yadgir, Deodurga, Jewargi, Surpur, Manvi, Siraguppa and Sedam have some of the lowest female literacy rates in the country as per the 2001 census.

Table: 17.11

Education Blocks with Lowest Female Literacy (2001)

<i>Education Block</i>	<i>Female Literacy</i>
1. Shahpur, Yadgir district	26.97
2. Yadgir, Yadgir district	26.99
3. Deodurga, Raichur dt	27.20
4. Jewargi, Gulbarga dt	29.86
5. Surpur, Yadgir dt	30.57
6. Manvi, Raichur dt	30.71
7. Siraguppa, Bellary dt	30.83
8. Sedam, Yadgir dt	33.45

Source: Census of India 2001

This region also has the highest proportion of out-of-school children and high pupil teacher ratio in the state. This contiguous area is mainly dry and dependent on rain fed agriculture. There are no large or medium scale industries to provide employment. A majority of the poor constitute agriculture labour, who migrate to other areas (including neighbouring states) during harvesting seasons and return to their homes during non agricultural season.

Establishment of Directorate of North East Karnataka

Realising the need to tackle these issues on a war footing, the state set up an exclusive education directorate at Gulbarga and called it the Directorate for North Eastern Karnataka as far back as 2001. The Directorate known in Kannada as “Eshanya Valaya Nirdeshanalaya” was inaugurated by the then Chief Minister of Karnataka on 10 July 2001 and this author functioned as its first director. The Directorate had jurisdiction over all the districts of Gulbarga division as well as Bijapur and Bagalkote districts of Belgaum division.

Establishment of the Office of Additional CPI at Gulbarga

The office of the Directorate was upgraded in 2005 and an Additional Commissioner was posted as part of decentralisation of the administrative process. The jurisdiction of this office was limited to the districts of Gulbarga division. This has greatly helped to tackle the administrative problems at that level itself.

The state also initiated several region specific measures—earmarking 50% of the state's non salary expenditure, shifting of primary school teacher, posts from other parts of the state, filling up vacant teachers, posts through direct recruitment, bifurcation of large districts and blocks for better administration, and provision of hot cooked midday meals to children of this region for the first time.

State Level Interventions in North East Karnataka

The state undertook several schemes to attain the overall objectives of UEE and improve the educational scenario in the NEK region.

- (a) The state level interventions were:
 - (i) Incentives such as uniforms, school bags, textbooks, scholarships and exemption of fees to SC/ST and girl students.
 - (ii) DPEP interventions—New schools to provide access, MLL based textbooks under retention, creation of BRC/CRC structures to improve supervision, monthly experience sharing workshops, mid term/ terminal assessments under quality building, awareness programmes and development of EMIS under capacity building.
 - (iii) Conduct of children census every year to identify out-of-school children as well as those eligible for enrolment in the following year.
 - (iv) Conduct of bridge courses (Chinnara Angala) and mainstreaming of out-of-school children every year.
 - (v) Conduct of annual enrolment drives.
 - (vi) Providing activity-based textbooks for all children.
 - (vii) Issue of competency based progress cards.
 - (viii) Formation and empowerment of SDMCs.
 - (ix) Samudayadatta Shale—a day-long programme in which community participates in the activities of the school.
 - (x) Extension of lower primary school to 5 years which has helped retain children in the system for one more year.
- (b) The state programmes specific to NEK were:
 - (i) 50% of non salary grants of the state's education budget under primary and secondary education heads were earmarked for NEK in 2001–02 and 2002–03. But this was not continued in subsequent years.
 - (ii) 2587 primary teachers' posts were shifted from other parts of the state during 200–02 and 2002–03 to NEK to improve pupil-teacher ratio in the region.
 - (iii) 4808 primary teachers were recruited in NEK during 2002–03.

- (iv) Bifurcation of large districts and blocks for better administration—Gulbarga district was bifurcated into two education districts—Gulbarga and Yadgir education districts. Gulbarga, Indi and Bellary education blocks were similarly bifurcated.
- (v) Hot cooked midday meal scheme was introduced for the first time in 2002–03 to all government primary school children (16.14 lakh children) studying in I to V standards in 8724 government primary schools in all districts of NEK. After the success of this programme in NEK, the programme was extended to the entire state.
- (vi) “Keli Kali”, a radio program was started 200–02 to provide academic support to teachers and children of III and IV standards in. This program was later extended to the entire state.
- (vii) Computer education was extended to 258 high schools in NEK under the Mahiti Sindhu programme which significantly increased enrolment and attendance in government secondary schools.
- (viii) Five MRPs from each of the 46 blocks of NEK were trained in English in the RIESI, Bangalore. These MRPs further trained all the teachers teaching English in the primary schools in their respective blocks.
- (ix) LGS was taken up by APF to improve the quality of classroom transaction. Schools were invited to participate in the scheme on a voluntary basis.

Education of Girls

There are several notable achievements as well as serious concerns in education of girls in the state.

Achievements

Literacy rates for men and women are higher in the state than in the country as a whole. Between 1961 and 2001, female literacy grew much faster than male literacy. Similarly, enrolment of girls in elementary schools increased at a much faster pace than that of boys. The education data also reveals a reduction in the gender gap with regard to enrolment of children in primary schools.

Concerns

Gender gap in literacy and participation of girls in schools in rural areas and in backward districts continue to be a cause for concern. The HDR 1999 notes that workforce participation rates indicate that girls are increasingly replacing boys on farms. Thus, the percentage of girls dropping out without completing elementary and/or secondary stage of education is much higher than that of boys.

Growth of Girls' Education in Karnataka

The first school for girls in the state was started in Bangalore city by the London Mission in 1840. This was upgraded as a high school in 1902. The Government Girls School (The Maharani's School) started in 1881 at Mysore with support from the Maharaja of Mysore was a landmark in the field of girls' education in the state.

By 1948–49, there were 1.9 lakh girls both in boys' and exclusively girls' schools in the princely Mysore state. A majority of schools were co-educational and there was still no major attempt to compulsorily enrol girls. At the time of reorganisation in 1956, there were 1441 primary schools, 90 high schools and 4 colleges for girls.

Increase in Girls' Enrolment

In 1960–61, the enrolment of girls at the lower primary stage (classes 1 to 4) was 7.48 lakhs, higher primary stage (classes 5 to 7) 1.60 lakhs and high school stage (classes 8 to 10) 0.37 lakhs. But gradually, the need for educating girls was accepted by the community and enrolment of girls increased substantially. The

following table shows the growth in enrolment of girls in all the 3 stages—lower primary, upper primary and high school stages.

Table 17.12
Growth in Enrolment of Girls
In Lakhs

Year	LPS	HPS	HS
1955-56	2.46	0.53	0.14
1960-61	7.48	1.60	0.37
1970-71	13.13	2.70	1.37
1980-81	16.74	4.73	2.82
1999-00	22.84	8.35	5.25
2005-06	27.70	10.80	11.40

Source: Annual Reports

Keeping with the increasing enrolment of girls, the dropout rate among them has steadily declined, especially in lower primary classes. While it was 73% in 1950-51, it dramatically declined to 11.55% in 1999-2000 and to 7.79% in 2005-06 for I to IV standards. However, the rate in higher classes is still high, (43.60%: 2005-06) for I to X standards. In 2006, there was a 11% gender differential in the number of children who took up the X standard public examination as is evident from the figures—4.58 lakh boys and 3.65 lakh girls.

Pre University Education

As far as Pre university education is concerned, the sub sector study report on secondary and Pre university education (2001), has commented that "irrespective of the fact that whether it is a poor college or a good college, whether it is a private college or a government college, the enrolment of girls is low as compared to that of boys"

Table 17.13
Gender Disparity in Enrolment of Girls in PUC, 2001

Category	Private		Government		Total	
	Poor	Good	Poor	Good	Poor	Good
Boys	68	64	70	67	69	65.50
Girls	32	36	30	33	31	34.50

Source: Sub Sector Study Report, Figures in Percentages

However, the situation has improved over the years. Now, the gender disparity has declined from 13% in 2001 to 7.25% in 2006 in terms of P U admissions. (Boys: 2.29 lakhs, and Girls: 1.98 lakhs—2006 figures). The Gender Parity Index for Karnataka shows an increasing trend from 0.85 in 200-02 to 0.94 in 2003-04 (MHRD figures—Table SE 3); which is also a healthy sign. However, a majority of girls have to complete household chores before attending college. As already mentioned (Table P U 9), a higher proportion of young girls from poor colleges have to take care of siblings, bring water from a distance, do odd jobs, besides cooking.

Performance of Girls in X Standard Public Examination

Girls have consistently performed better than boys in all the years as is evidenced by the results of the X standard public examination as shown in the following table.

Table 17.14

Performance of Girls in X Standard Public Examination

Gender	1990	1993	1996	1999	2005	2006
Boys	52.28	48.65	41.37	55.02	52.63	66.18
Girls	58.37	55.89	46.61	58.92	62.46	71.30
Total	54.33	51.48	43.46	56.72	56.92	68.45

Source: Annual Reports

When ranks were declared (it has been discontinued now), more girls figured in the top 20 rankings when compared to boys.

Performance of Girls in Pre University Examination

The following table indicates that girls have consistently performed better in all the streams of Pre university education.

Table 17.15

2006 II PUC Results*

Stream	Boys	Girls
Arts	47.06	58.91
Commerce	56.35	72.91
Science	46.39	52.19
Total	49.00	59.75

* Figures in percentage

Source: Annual Report 2006

Several policy interventions, incentives and concessions have made an impact on continuation of girls till Pre university level.

Educational Concessions for Girls

All girls studying in government institutions are exempt from paying tuition fee up to XII standard (PUC). To provide opportunities for girls to pursue higher education, apart from reservation in government seats, the state has established several exclusive girls' high schools and women's colleges while in D Ed admissions, 50% of the seats are reserved for women. In technical education, 12 women's polytechnics have been established by the state.

The Women and Child Welfare Department also has a number of schemes to improve enrolment and retention of girls—Balika Samvridhi Yojana, Girls' Hostels, the ICDS programme, etc.

Promotion of Education of Girls under SSA

The SSA has launched two schemes for promotion of education of girls belonging to socially and economically disadvantaged groups—National Programme for Education of Girls at Elementary Level (NPEGEL) and Kasturba Gandhi Balika Vidyalyas (KGBVs).

SSA aims at promoting access, retention and greater participation of girls in the field of elementary education. It promotes quality education of girls through various interventions, which are needed for their empowerment. NPEGEL is a focused intervention to reach the hardest-to-reach girls, while continuing efforts to retain those who are already in schools.

Under the NPEGEL, model cluster schools have been started in 61 educationally backward blocks in 18 districts, where the literacy rate is lower than the national average. The scheme also provides a good opportunity to develop context-specific strategies to address the learning needs of girls along with community mobilisation and gender sensitisation of teachers. In 2006–07 the programme covered 862 clusters including 4 urban slums. Of these, 108 clusters are managed by Mahila Samakhya.

SSA has launched another new scheme for girls called "Kasturba Gandhi Balika Vidyalaya" wherein residential schools with boarding facilities have been set up at elementary level for out-of-school girls belonging predominantly to the SC, ST, OBC and minority communities in difficult areas. The objective is to ensure access and quality education to girls belonging to socially and economically disadvantaged groups of society. In 2006–07, 61 KGBV schools had been established in the state with a total enrolment of 5335 girl children.

Special Programmes to Reduce Inequities

The following special programmes of the department of school education have had a significant impact on the drive towards further reducing inequalities in educational opportunities in the state.

The Coolyinda Shaalege (From Labour to School) Campaign

Due to the efforts of teachers and supporters of educational initiatives, the *Baa Marali Shaalege* campaign succeeded in bringing back to school about 224,000 children in the age group 6–14 years during 2001–02. Even then, about 340,000 children remained out of reach of the school system. Many of them were involved in hard and demeaning menial jobs for their livelihood when they should have actually been involved in some productive and joyful learning. They are victims of a cruel society that perpetrates child labour though it is plainly illegal as well as officially forbidden. The basic aim of the *Coolyinda Shaalege* campaign was to liberate such children from the bondage of labour and bring them to school.

During February–March 2003 a major campaign was mounted throughout the state giving publicity in various ways—through handbills, posters, wall writings, street plays, newspapers and media. Subsequently, teachers, students, workers, departmental officials, resource persons including those in BRCs/CRCs, SDMC members, voluntary organisations/NGOs and students in teacher education institutions participated extensively to liberate children from the world of labour and introduce them to the world of learning. The state chief minister made a special appeal to all people in this regard. Employers of child labour were told: "Employing children below 14 is an offence. Those violating the law are liable for punishment with fine or a jail term or both. Release the children from your bondage and send them to school".

The outcome of this campaign was impressive and about 50,000 children were liberated and enrolled in *Chinnara Angala* (bridge course) centres.

Samudayadatta Shale – School towards Community

Community participation has been a vitally missing component in the process of universalisation of school education in previous decades. A special programme called *Samudayadatta Shale* was launched in November 2000 to facilitate the same.

Under this programme that covered every school in the state, on a specified day, a designated official of the department visited the school to discuss with the students, teachers, parents and members of the local community any special problem of the school and to assess the academic progress of the school children as well as the performance of teachers. Members of the SDMCs were also associated in the exercise. This way they tried to improve the relation between the school and the community. They also ensured that all the benefits meant for the school and the community actually reached the intended beneficiaries.

A special feature of the programme was the performance of specially prepared cultural and co-curricular activities in the evening for the whole community. A significant fallout of this effort was that a considerable number of donors and voluntary agencies came forward to adopt the schools and provide basic amenities such as drinking water, toilet, midday meals, etc.

The Akshara Initiative—Education for Urban Slums

Akshara Foundation is a charitable trust working in Bangalore with the objective of 'universalisation of primary education for all children in Bangalore city'.

Joining hands with the Department of Public Instruction, GOK, Akshara mobilised the community to mainstream children into schools, and more importantly, facilitate the improvement of delivery of education services within the school system.

Children who were chosen for Akshara's programme fell under various categories: pre-school age, school-going with poor academic abilities, school dropouts or those who have never attended a school before. Started in 2000, it has so far reached out to about 60,000 children (2005).

Akshara focused on tapping the vast energies of the youth in slum communities and the desire among individuals to contribute their skills to society. There are 4 key elements to the strategy of Akshara Foundation.

- Create local ambassadors of education from within the slum communities.
- Break down the city into smaller, more manageable units, and localise responsibility.
- Encourage the participation of all sections of society.
- Work in close coordination with the government which has the largest reach in the city and target the schools run by it.

Operationally, Akshara's goal of universal primary education revolves around 4 major programs.

- Pre-school (*Balwadi*) education for 3–5 year old children.
- *Chinnara Angala*, a bridge course for 6–11 year old out-of-school children.
- Remedial education for children in school, who need extra attention to improve academic performance
- Bridging the digital divide—It has been found that parents of children living in slums and villages are keen to get their children exposed to computers from an early age.

Education for the Disabled—IEDC

The major objective of the IEDC (Integrated Education for Disabled Children) scheme is to provide education to the disabled children along with normal children in normal schools in the least restrictive environment. Financed by MHRD, the scheme is being implemented by the department of school education since 1983. At present, it is part of the Directorate of Primary Education and is receiving substantial

financial support under SSA. It has significant field support from the district DIETs and a large number of voluntary organisations and is being implemented in schools run by the state government as well as registered and recognised societies. The nature of disability includes visual and hearing impairment, mental retardation and orthopaedic handicaps. At present, over 36,000 children in about 5,600 schools come under the scheme. Nearly 2,000 resource teachers are involved in the instructional programme.

Some of the major activities under the scheme are:

- Conducting field surveys and assessment of disability;
- Development of resource support facilities and instructional materials at various levels;
- Training/orientation of resource personnel at various levels;
- Conducting awareness campaigns and enrolment drives;
- Distribution of assistance to the intended beneficiaries.

Baa Baale Shalege (Bringing the Girl Child to School) Campaign – A Voluntary Effort by Women Teachers

The main strategies being adopted under this campaign are:

- To make women officials of the education department motivate themselves to adopt an educational block each and evince special interest in the education of girls in that block;
- To encourage the women officials adopting a block to meet women teachers in the particular block and motivate them to achieve the aims of this programme voluntarily;
- To make all voluntary organisations such as *stree-shakti* /SHGs, *mahila/yuvathi mandals* as well as women representatives evince interest and take responsibility for the tasks;
- To ensure that girls participate effectively in the 20-point programme under the Learning Achievement Year;
- To persuade NGOs to take active part in the campaign;
- To open residential schools with the help of *Mahila Samakhya* for dropout girls in the backward districts of NEK.

Beediyinda Shaalege (From Street to School)—A New Initiative

In spite of several major initiatives, thousands of children are still deprived of education. Street children constitute one such category. In urban areas, they are struggling to live in the hardest and most degrading circumstances. Separated from their parents due to a variety of social and economic problems, many of them have been orphaned and driven to the streets. Others have been forced to beg or scour dustbins for a living. Under the objectives of SSA, all children including these deprived street children have to be brought into the school system. This *Beediyinda Shaalege* programme has been conceived against this background and is the department's latest initiative towards providing education to the deprived.

It is no easy task to contact children in the streets, understand their problems and persuade them to join school. There is a need for institutions and individuals who have a deep understanding of the sociological aspects of the problem, experience in social service, a service-minded attitude as well as a concern and commitment for such issues. Both time and effort are needed in good measure. It was, therefore, decided to entrust the responsibility of implementing this programme to voluntary agencies and organizations that are active in the social and educational sectors. Several groups of street children were mainstreamed under this programme.

Protecting Children's Rights

The ninety-third amendment to the Constitution of India has made education a fundamental right of the child. This right is deemed to have been denied particularly to one in the 6–14 years age group, if he/she

is not enrolled in school or is employed in any form of labour. The department of education has initiated several steps in an effort to reinstate the child's right to education.

At the state level a Child Rights Cell was started. If a child or his/her well-wishers register a complaint in this cell, appropriate action is initiated. At the block level, the BEO is empowered to accept such complaints and act on them. A plan to open a child rights association at the school level is being considered with the objective of making children aware of their rights and to empower them to preserve them. A suggestion is also being considered to enable affected children to drop a written complaint in a sealed box without necessarily disclosing his/her identity. The box would be opened periodically, the complaints scrutinised and appropriate action initiated.

Flexi-Schools

One of the many new initiatives of the department of education to get out-of-school children back to school is its Flexi-School programme that was started initially in Bangalore city. Eight localities of urban Bangalore were identified for the purpose and the schools are run in two shifts, from 8 a.m. to 8 p.m. The children can attend the school whenever they are able to do so. Each school has two teachers and two volunteers in each shift. A separate curriculum has been evolved for these schools with teachers and volunteers working here being given special training to meet the unusual needs. Several NGOs, including the Akshara Foundation and the Centre for Working Children, joined in the effort on their own initiative. In order to attract working children to these schools the Departments of Labour, Social Welfare, and the Minorities as well as several voluntary organisations are cooperating with the education department.

Tribal Education – Special Drive in a Forest

The Tribal Alternate Education Programme was initiated as a pilot project by an NGO called DEED (Development through Education) in collaboration with A-e-A (*Aide-et-Action*), a Chennai based support group, in the Kakanakote forest area of Nagarahole National park in Mysore district in 6 tribal *hadis* (settlements). 443 tribal (*Adivasi*) children out of whom 234 were girls received assistance under it. Three government schools that were virtually dysfunctional in the area were adopted. 88 out-of-school children were also brought back to the educational system through these schools.

This is a major component of a larger programme for the upliftment of the primitive tribal population of *Jenu Kurubas* that lives under extremely difficult and dangerous conditions. After the results of the pilot project were found encouraging, the programme was implemented under the Community Owned and Managed Education (COME) concept. The Education Department is now supporting this program on a long-term basis.

A 4 year plan is now under implementation focusing on pre-primary, primary and life oriented education, and mainstreaming the dropouts below 14 years in 32 *hadis*. A total of about 3000 *adivasi* children, including over 1600 girls, are being targeted. 386 dropout children have been brought back to the mainstream school system through 18 special *Chinnara Angala* coaching centres. These children joined regular government schools in June 2003.

Under the programme certain innovative components have been included. For pre-primary children play-way methods, habit formation, games, plays and songs have been introduced. For primary education DPEP methods (*Nali-Kali, Kali-Nali*), cultural story telling, teaching songs, playing games, watching nature, promotion of eco-friendly practices, analysing and understanding real life situations, etc., have been adopted. The tribal dialect has been given importance. Special pedagogy education material (*Jenunudi Kaliyaku*) has been published and popularised in the schools. Science, mathematics and social studies have been taught through songs and games. To combat the children's malnutrition, noon meal and nutritious supplementary food is being given in the schools. This has helped to reduce the dropouts and increase attendance in the schools.

There is a strong community commitment to the programme. Education has been accepted by parents as well as children in the broader sense of it being an empowerment process that would enable them to handle day-to-day affairs efficiently.

Mobile Schools

It may not be always possible to bring all children to school. So, a novel and experimental scheme of *taking the school to the children* has been introduced in some slum areas of urban Bangalore. It is a *mobile* school built into a bus that is equipped fully as a classroom with attractive and colourful teaching aids and a blackboard. Started in July 1999, it has been serving the needs of underprivileged children from the slums in Bangalore city. It is a heartening experience to see children rushing towards the bus when they hear its horn blowing and calling them to school. The children are picked up from slums and dropped back to their homes after school.

Children attending mobile schools learn the same way as those in other schools. The buses take them to spacious parks where classes are conducted. They are provided with free textbooks, slates, notebooks, uniforms and play materials. They are also being provided with free midday meals. The program has the enthusiastic support of the people and several institutions.

The programme aims to mainstream the children in regular schools after providing them up to one year of mobile schooling. The success story has prompted the Bangalore Metropolitan Transport Corporation (BMTC) to donate 4 more buses for expanding this novel idea to cover more children in the slum areas. There were 8 mobile schools in 2006–07 and 607 children were studying in them.

Minority Education

Muslims and Christians constitute the two principal religious minority groups in the state.

Muslims come under the OBC (Other Backward Classes) category that qualifies them for consideration under the reservation quota for admission to educational institutions and employment in government sector. This quota is also available to some categories of converted Christians.

The minority education in the state presents a brighter picture when we consider the following indicators (relating to 2005).

1. The percentage of out-of-school children for the minority community is 1.27 as against 1.56 for the overall category.
2. The literacy rate among Muslims is 70.10 compared to the state's literacy rate of 66.64 (2001).
3. The pupil teacher ratio in Urdu Schools is 25:1 compared to 34:1 in the state.
4. In 2004–05, 4856 new Urdu Primary Schools, 34 EGS centres and 28 new Urdu Government High Schools were opened.

The state has given adequate importance to minority education by establishing a separate Directorate for minority language institutions. But unfortunately, the state does not provide sufficient funds to promote them. There are two types of minority institutions—religious minority and linguistic minority institutions.

Details of Minority Schools

Out of a total of 5293 minority elementary schools the break up is 4124 Urdu, 993 Marathi, 164 Tamil, 106 Telugu, 4 Malayalam, 1 Gujarathi and 1 Sindhi schools. 4900 (90%) are government schools.

But, out of a total of 540 minority secondary schools, only 198 (37%) are government schools. The 540 minority secondary schools comprise 325 Urdu, 184 Marathi, 16 Tamil and 15 Telugu secondary schools.

The Urdu medium institutions are spread throughout the state. The Marathi institutions are spread over the border districts of Uttara Kannada, Belgaum, Gulbarga and Bidar. Telugu and Tamil institutions are very few and concentrated in the border districts of Kolar, Raichur, Chamarajanagar, apart from

Minority children form less than 9% of the total enrolment in schools. A significant feature of the minority education (especially Urdu schools) in the state is that the enrolment of girls (at 57%) is higher than that of boys in government, aided and unaided institutions. (Table EE 16).

This Directorate was established in August 1987 to promote the interests of minority language institutions and improve the standard of education in them. After the establishment of the Directorate, 507 institutions were declared as minority institutions. The activities of the Directorate are.

1. To submit proposals to government to declare the educational institutions run by linguistic and religious minority communities as "Minority Institutions";
2. To conduct periodical visits and inspections of these institutions;
3. Collection and compilation of statistics about these institutions;
4. To conduct orientation training courses for teachers of minority language schools;
5. To provide infrastructure to these institutions;
6. To reimburse fee for Anglo Indian students;
7. To conduct cultural competitions to identify talent in minority students;
8. To coordinate the work of all agencies working in the field of education for minorities.

The Directorate looks after 86 Hindi Vidyalayas (80 Vidyalayas are getting partial grants), 323 Arabic Madrasas (schools) and 9 Arabic Colleges in the state. 103 Arabic schools and 3 Arabic colleges are receiving aid from the state.

Under the centrally sponsored scheme of modernization of Madrasas, 119 Madrasas received grants to the tune of Rs 19.97 lakhs. Under this scheme, subjects like Science, Social Science and English are taught by teachers appointed on a consolidated salary of Rs 2200/month. An amount of Rs 4000/- is given as aid to every Madrasa to purchase science equipment. During 2006-07, a sum of Rs 7.10 lakhs was released to ZPs to reimburse fees to Anglo Indian students studying in I to X standards.

Under the CSS Area Intensive Programme for educationally backward minorities, funds have been provided for construction of 278 classrooms in the following ten education blocks in the state—Bidar and Humnabad in Bidar district; Gulbarga and Chittapur in Gulbarga district; Savanoor and Shiggaon in Haveri district; Belthangady and Bantwal in Dakshina Kannada district; Raichur in Raichur district; and Bhatkal in Uttara Kannada district. An amount of Rs 450.17 lakhs has been released so far under this programme.

Role of Private Educational Institutions

The last few decades have witnessed a tremendous transformation in the life of the people of the country due to increasing liberalisation of the economy. This has further encouraged the private sector to grow rapidly and make significant contributions towards transforming the quality of life of the people in the country.

Karnataka's dominance in Information Technology and Bio technology has had a cascading effect on various sectors in the state, especially the education sector. As in any other sector, the private sector has contributed significantly to the growth of the education sector during the past several decades in the state.

Students, parents and the general public have strong perceptions of quality based on which they rate an institution, and accordingly, private institutions fare better than government ones to a large extent.

Role of Private Sector in Education as seen by the Courts

The Supreme Court in its landmark judgement in 1994 in the Unnikrishnan case acknowledged the role of the private sector by stating that the constitutional obligation "of free education up to the age of fourteen years" can be performed not only by state schools, but also by aiding voluntary NGOs who are prepared to impart free education to children.

The High Court of Karnataka in its judgement dated 30 May 1998 (WP 1833-1836/ 95) directed that the state reimburse the fees of children up to 14 years of age studying in private institutions in order to fulfil its constitutional obligation. This was, however, rejected by the Supreme Court in its judgement on 1 August 2001 in an SLP filed by the state government.

The Supreme Court further observed that unaided private schools have also a role to play. "They meet the demand of that segment of the population who may not wish to have their children educated in state run schools. They have to necessarily charge fees from students".

Establishment of Private Educational Institutions in the State

All private institutions are established and managed as per statutory rules, regulations and guidelines laid down by the state government from time to time. No new educational institutions can be opened without formal clearance from the concerned government department/university/statutory body.

Private institutions are granted recognition by the state government provided they meet certain conditions regarding enrolment, qualified teachers, syllabus and infrastructure. Institutions in the higher education sector have to be affiliated to a university and technical institutions have to be approved by the AICTE.

Unaided institutions do not receive any direct grants from the government. However, the income from such institutions, if managed by a public charitable trust, is exempt from income tax. This is a major incentive for the private sector to establish and run educational institutions. In addition, some institutions managed by SC/ST and minority groups get land and other benefits from the government at concessional rates.

The grant-in-aid codes and the Karnataka Education Act 1983 regulate the private educational institutions in the state.

Growth of Private Educational Institutions (Before Independence)

Before the advent of the British, the educational scene in Karnataka, as in the rest of the country, was dominated by the private sector represented by the dominant caste/ religious denominations in the form of agraharas and mathas. These institutions were sustained by ample donations / endowments given by local rulers and philanthropists.

After the advent of the British, Christian missionaries started educational institutions for imparting 'English Education'. Gradually, these institutions started attracting more and more students from all sections of the society. The government in 1852 decided to support these institutions by giving financial assistance.

Bishop Cottons School, Bangalore was one of the first schools to get aid from the government. The annual report of the education department for 1866 notes "The school was instituted in the early part of last year ...and in addition to donations amounting to Rs 5,640, has received a monthly contribution of Rs 470". As the demand for English education increased, the private sector started showing greater interest in establishing more schools.

In connection with the compulsory education of boys, the government in its 1915 order encouraged starting of aided schools. This policy was reiterated when the government issued orders in 1918 for compulsory education of girls. The grant-in-aid rules were relaxed in case of girls' schools and grants for girls' schools were given up to two thirds of the costs.

By 1945, the government had enhanced the aid amount to three fourths of the actual cost which gave a boost to the private sector. However, the private sector confined itself to establishing educational institutions largely in bigger towns. At the time of independence, out of 93 high schools in the princely Mysore state, 45 or nearly 50% were municipal high schools. The private sector participation could also be seen in a significant manner as there were 24 aided and 16 unaided high schools in the state at that time.

Growth of Private Institutions (Post Independence)

The post independence era has seen a remarkable growth in private sector institutions at all levels. The newly integrated areas of Bombay Karnatak area had a greater proportion of private institutions largely due to the keen interest shown by mutts and education societies. The table below shows the growth of private educational institutions during the period 1946-1972.

Table 18.1

Growth of Private Aided Institutions Post Independence in Karnataka

Year	Aided	Unaided	Total
1946-47	24	16	40
1950-51	65	10	75
1955-56	76	16	92
1956-57	266	20	286
1960-61	424	37	461
1965-66	703	296	999
1970-71	1137	203	1340
1971-72	1212	137	1349

Source: Twenty Five Years of Education in Mysore State

Unaided schools became aided schools after a compulsory waiting period, hence there is reduction in number of unaided schools in certain years. The significant increase seen in 1956–57 is due to integration of new areas with the state.

The presence of a large number of unaided high schools in 1965–66 is due to the change in grant-in-aid policy of the government which prescribed a minimum of three years for getting aid.

Share of Private Sector in Education in Karnataka

Whereas in the elementary education sector, only 19.8% of schools are in the private sector, this percentage significantly increases as we move higher to the secondary education (64%) and pre university education (69%) sectors. In the collegiate education sector, private institutions form a major chunk (83%). In technical education, both at the diploma and degree levels, private institutions account for an overwhelming share (85%) both in the number of institutions and enrolment.

Table 18.2

Share of Private Institutions in Karnataka—Bird's-eye View

<i>Institutions</i>	<i>Govt.</i>	<i>Aided</i>	<i>Unaided</i>	<i>Others*</i>	<i>Total</i>
LPS (I–V)	24,547	326	3,243	383	28,499
HPS (I–VII)	19,807	2,173	5,468	401	27,849
Total (Primary)	44,354	2,499	8,711	784	56,348
High Schools (VIII–X)	3,452	2,633	4,133	319	10,537
PUC (XI–XII)	856	531	1,352	0	2,739
Vocational Courses	197	341	10	0	548
Degree Colleges	182	299	561	0	1,042
Engineering Colleges	46	58	208	0	312

* Institutions run by other departments—Social welfare and local bodies

Source: EMIS 2006–07

The contribution of the private sector to the growth in the number of elementary schools has been increasing significantly over the last few decades. Yet it is still small when compared to the contribution of the government sector.

Private aided and unaided secondary schools constitute more than two thirds of the secondary schools in the state, but, they are concentrated mostly in urban and semi urban areas whereas government schools have a strong presence in rural areas.

Within the private secondary education sector, unaided schools are more in number than aided ones. (Table 18.2). The sub sector study on "Role of Private Sector in Education" (2001) estimates that private schools constitute 82% of secondary schools in urban areas.

Table 18.3

Growth of Secondary Schools—Category-wise

<i>Category</i>	<i>2004–05</i>	<i>2005–06</i>	<i>2006–07</i>	<i>2006–07 (Percentage)</i>
Government	3,029	3,335	3,693	35.30
Aided	2,621	2,700	2,633	25.18
Unaided	3,362	3,463	4,133	39.52
Total	9,012	9,498	10,459	100.00

Source: Performance Budget 2007–08

The demand for English medium schools is also one important reason for the unprecedented growth of private educational institutions in the school education sector. Another important factor the urban parent takes into consideration while admitting his child to a private institution is 'quality' and the 'continuity factor' as education in all stages is available in the same institution.

Collegiate Education

The extraordinary growth of private educational institutions, especially professional colleges, is mainly due to the desire of many social groups to gain access to education at higher levels.

Unaided private colleges have registered an impressive growth in the past two decades and account for 54% of all colleges in the state. Table 18.4 gives the university-wise growth of unaided colleges in the state from 1990–91. The number of unaided colleges has grown from a mere 42 in 1990–91 to an impressive 561 in 2006. This was mainly because of the booming demand for non traditional courses—BBA, BBM, BCA, MCA, etc. Demand for traditional courses—specially basic sciences and mathematics—is largely on the decline.

Table 18.4
Growth and Distribution of Private Unaided Colleges in Karnataka

University	1990–91	1995–96	2000–01
Bangalore	11	80	179
Mysore	2	31	42
Kuvempu	6	47	57
Mangalore	7	24	32
Karnatak	4	59	106
Gulbarga	12	43	57
Total	42	284	473

Source: Sub Sector Study on Collegiate Education

Technical Education

In the technical education sector, the number of private unaided colleges has increased tremendously in recent years because of the huge demand for high profile courses like Information Technology, Electronics and Communications. Private unaided polytechnics also show a similar trend. Tables 18.5 and 18.6 show the impressive growth in private engineering colleges and polytechnics during the past decade.

Table 18.5
Category-wise Growth of Engineering Colleges in the State

Category	1995–96	2000–01	2006–07
Government	6	6	6
Private Aided	11	11	11
Private Unaided	36	65	106
Total	53	82	123

Source: Annual Reports

Table 18.6
Growth of Polytechnics in the State

Category	1995-96	1999-2000	2006-07
Government	39	38	38
Private Aided	7	7	44
Private Unaided	137	140	107
Total	183	185	189

Source: Annual Reports

Governmental control over the admission process has ensured some sort of equity in admission to these colleges.

Cost of Education in Private Institutions

Those who can afford generally prefer private institutions irrespective of other considerations. The cost of education in private institutions is relatively high. It is much higher in unaided institutions than in aided and government ones. The menace of 'donations' and 'exorbitant fees' exists only in prestigious and elite schools situated in cities and towns.

In aided institutions, the teachers are paid salaries directly by the government under provisions of the grant-in-aid codes. In such cases, the managements provide very little for improvement of infrastructure and other facilities.

Teachers' salaries constitute the single largest expenditure (around 95%) incurred by the managements of private unaided institutions. In a majority of the cases, the fixation of salaries is determined by market forces. Generally, teachers in these institutions are paid far lesser than their counterparts in government institutions.

Recruitment of Teachers in Private Aided Institutions

Government institutions adhere strictly to the reservation policy. The recruitment of teaching staff takes place either through the CAC or KPSC. Generally, merit cum roster is the most important criteria in recruitment.

Rules under the Karnataka Education Act 1983, economy measures imposed by the government from time to time, reservation policy and the departmental circulars in force regulate the appointment of teachers in private aided institutions. In these aided institutions, recruitment is done locally and is not always based on merit. In many cases, the managements make a lot of money by selling the post to the highest bidder. Even though a procedure has been prescribed by the government for recruitment of teachers in aided institutions, private managements try to circumvent the same to appoint their own people for the posts for which they have to advertise after getting permission from concerned departments.

Recruitment of Teachers in Unaided Institutions

Unaided institutions largely ignore the government recruitment and reservation policy. The only criteria the institutions have to fulfil is that the teachers recruited should be trained and should have minimum prescribed qualifications—PUC and D Ed, in respect of primary schools, and a basic degree (in Arts or Science) with a B Ed degree in respect of secondary schools. Similarly, in colleges, the candidates should have a postgraduate degree in the particular subject along with NET/SLET.

Minority Institutions

There are two types of minority institutions—linguistic and religious minority institutions. Muslims and Christians constitute the two principal religious minority groups in the state. In principle, a majority of the members of the management should belong to the minority community. The roster system and recruitment policy of the government does not apply to minority institutions.

Aided minority institutions enjoy certain privileges not available to general category institutions. This includes a relaxation in the quota for admission of students and recruitment of staff from the respective minority groups.

The government policy promotes growth of institutions to provide educational opportunities to the minority groups. A number of such institutions are found at all levels of education both in aided and unaided sectors. Many schools run by Christian missionaries popularly known as Convent Schools are popular in urban areas and there is a very good demand for them.

Konkani speaking people found in coastal areas are treated as a linguistic minority group by the central government. This has enabled the "Manipal Academy of Higher Education (MAHE)" in Manipal to attain the status of a deemed university with an international reputation.

SC/ST Institutions

According to the state education policy, SC/ST managed institutions should have all members of the management belonging to SC/ST community and 50% of students and staff belonging to SC/ST for being recognised as SC/ST institutions.

'Malpractices' in Private Institutions

Except a few reputed institutions, most of the private institutions treat education as a commercial activity. It is common for private managements to charge heavy donations, pay lower salaries to the staff, provide poor infrastructure and disregard government rules and regulations.

The state has not been able to curb some of the unethical practices of unaided private institutions at the school level—costly uniforms and additional books (to be bought only from the school), apart from textbooks, heavy fees, collection of additional funds in the form of building fund, school excursions, school day, etc.

The sub sector study report comments: "Managements of private schools feel that unrealistic policies of the government with respect to (a) fee structure, (b) staff recruitment, (c) medium of instruction, (d) grants-in-aid, are the root causes of the so-called malpractices in private sector schools".

Performance of Students from Private Institutions

In the X standard public examination, the performance of students from private institutions is decidedly better as seen from the results. There was an average fifteen percentage point difference in performance of students from government schools and private schools over the years, which has narrowed down to about ten percentage points in recent years, as seen from Table 18.7.

The consistent and improved performance of private schools is largely due to higher quality of students at entry level, better infrastructure, and probably better classroom teaching.

Table 18.7

SSLC (X Standard) Public Examination Results

Type of School Results	1990	1993	1995	1997	2001	2003	2005	2006
Government	45.4	39.8	30.6	32.5	42.5	51.2	58.5	64.8
Private	60.0	56.7	51.5	57.2	56.3	58.6	66.5	74.7

Source: KSEEB

The sub sector study which had taken up intense field studies in Bijapur and Udipi districts in 2001 has corroborated this point. In the Pre university examination, the sub sector study points out that the performance of private institutions is slightly better than government ones.

In the higher and technical education sectors, since the vast majority of colleges are in the private sector, it would be inappropriate to compare the performance of government colleges with the private colleges.

Efficiency in Managements

One significant advantage a private institution has over a government institution is in the area of management. Policy and decision making processes are faster in the former. This translates into a higher degree of efficiency in management and therefore a higher degree of productivity.

Promoting Equity in Private Sector

Even though private sector institutions have some freedom in matters of admissions and recruitment of staff, there is need for also to ensure equity. Hence, they need to follow the government policy of reservations in order to bring in equity and fulfil constitutional obligations to socially and economically weaker classes of society.

Service Conditions in Aided Institutions

Service conditions and salaries in government aided institutions are among the best in the country. The service conditions are regulated by the government policies and the grant-in-aid codes. The government has adopted the salary scales as recommended by UGC/AICTE in collegiate and technical education sectors.

Service Conditions in Unaided Institutions

In the private unaided sector, however, exploitation of the staff is more a rule than an exception. There is a high degree of dissatisfaction among the staff as they are poorly paid and badly treated. In matter of service conditions too, they are at a serious disadvantage with no job security. In some private institutions only, the contributory provident fund scheme is in vogue. Other benefits and service conditions enjoyed by the government staff are almost unheard of.

This is borne out by the Sub sector study on private institutions too. The study found that the salaries of teachers in some of the best unaided schools in Udipi district was no more than two thirds of what their counterparts in government and aided schools got. In most cases, it was hardly 50%. In some schools in Bijapur district, the situation was pathetic as the monthly salary paid to a school teacher was a mere Rs 500/-. The situation is no better in colleges and other higher education institutions.

Of late, some of the reputed private unaided institutions are trying to adopt corporate practices and hire the best people in the industry by paying hefty salaries. But they are mostly confined to Bangalore and some urban pockets and are very few in number.

Effect of Regulatory Policies on the Private Institutions

The existing regulatory policies are generally found to be encouraging the participation of private sector in education. Some of the issues which restrict the growth of these institutions (indicated in the sub sector study) as perceived by the private managements are detailed below.

1. Unrealistically low student fee structures prescribed by the government at all levels of education affect the quality of services in unaided institutions.
2. Restrictions placed on student admissions and staff selection.

3. Inadequate representation of private institutions in policy making bodies and decision making processes.
4. Lack of opportunities for further growth of academic staff as staff of unaided institutions are not involved in professional/teacher training/orientation programs.
5. Harassment of the managements of private institutions in government departments/universities in matters of granting approvals of admissions/ staff appointments.

The government departments, in turn, hold the following issues against the private managements.

1. Unauthorised collections of heavy donations.
2. Discriminatory practices, harassment of staff, disregarding rules and regulations, unsatisfactory maintenance of records.
3. Inability to pay attractive pay scales to the staff and provide secure service conditions.
4. Inability to cater to the professional growth of the academic staff through continuous professional development programmes.

Role of Managements in Private Educational Institutions

The managements of private institutions play a significant role in taking all initiatives to obtain necessary permission and establish institutions, provide infrastructure facilities, recruit staff and mobilise funds for the development of the institution.

As far as schools are concerned, the application for starting a school is received by the BEO and is processed at various levels and permission is given by the respective authority within the education department. The management must furnish all information regarding the need for the school, accommodation, furniture, equipment, staff to be appointed, proposed fee structure and its financial stability along with the application. In cases of professional institutions like TTIs, the institutions should also obtain recognition from NCTE, a statutory body under the GOI. In case of higher education/technical institutions, they are governed by regulations of the concerned universities/ AICTE/UGC, etc.

Collegiate Education

In the collegiate education sector, the private management has to submit application for starting a new college. Permission has to be given by the state government and affiliation has to be given by the concerned university. Once a college is affiliated, it has to renew its affiliation every year. However, a college may apply for permanent affiliation and may be granted the same by the university on the recommendation of the state government. Permanent affiliation is an essential condition for seeking UGC assistance. Affiliation can also be withdrawn on the recommendation of the state government by the university.

Recommendations of the Sub Sector Study Report on Role of Private Sector in Education

1. Regulation for granting recognition to schools to be revised in order to encourage more private sector participation.
2. Regulatory policies for private sector institutions, especially unaided ones, should be more realistic and unambiguous with respect to fee structure, staff recruitment policy, salary and service conditions of teaching staff.
3. While the unaided institutions may be allowed to charge higher student fees depending on institutional needs, there must be a provision for free/subsidised education for the merited and needy students in such institutions.
4. Deserving institutions in the collegiate education sector may be granted functional autonomy, especially in academic matters, and be freed from centralised control.

5. In the field of collegiate education, the role of government may be restricted to
 - (i) Regulation with respect to equity issues, salary and service conditions of staff and removal of regional imbalances;
 - (ii) Providing specific support systems for the benefit of eligible students from disadvantaged sections of society;
 - (iii) Creating support systems for ensuring high quality education at all levels;
 - (iv) All other regulatory functions must be vested with the universities and statutory bodies established for the purpose.

The Grant-in-Aid Policy

The grant-in-aid policy envisages encouraging private participation through provision of grants, when the state is not in a position to satisfy the local needs in opening educational institutions.

According to this policy, grant-in-aid is a discretionary grant of the state government with the state having the discretion to award, refuse or withdraw grants to an institution. Grants cannot be claimed as a matter of right by any institution. Grants are given subject to availability of funds.

The grant-in-aid policy of the state has evolved over a period of time. In the beginning, the state was liberal in extending aid to private institutions. But as the number of private institutions increased, the grants started proving to be a heavy burden on the finances of the state and hence the state began to impose conditions and restrictions in granting aid.

The extension of grant-in-aid to private institutions depends broadly on the following factors.

- The willingness to extend or modify the policy on the part of the government (or the party in power) at any particular point of time.
- The capacity of the government to pay, as any commitment would have a long time impact on the finances of the state.

Objectives of the Grant-in-Aid Policy

The grant-in-aid policy has both promotional and regulatory objectives. These objectives have relevance to all stakeholders in the education system—the state government, the management of private institutions, teachers, students, parents and the community. The grant-in-aid policy has encouraged and also regulated the growth of private participation in education in the state.

The objectives of the policy are

1. To encourage private initiatives in management and finance of education.
2. To regulate the activities (recruitment, admissions, etc.) of private institutions through prescribed norms.
3. To reduce the cost to the state as otherwise these institutions would have to be run and maintained by the government.
4. To reduce the cost to the private institutions as the salary of teaching and non teaching staff is compensated by the government.
5. To ensure equity through implementation of the roster system, regulation of admissions and other similar measures.
6. To facilitate quality education at affordable and reasonable levels in aided institutions.

Evolution of the State's Grant-in-Aid Policy

As early as 1860, in princely Mysore state, the government under Bowring evolved a plan "consisting of not only establishing government schools but also encouraging private initiatives through the grant-in-aid scheme". According to this scheme, individuals or a group of individuals were encouraged to set up

schools and run them for a few years successfully, after which the government would provide them with financial assistance.

By the year 1864–65, the number of private institutions had gone up to 81 and 64 of them were receiving grant-in-aid. There were 5642 students in these private schools of which 365 were girls. In 1881 there were 899 government schools (enrolment 33,287), 188 private aided schools (enrolment 9,370), and 100 private unaided schools (enrolment 15,000) in the princely state of Mysore.

In the beginning, the government met one half of the net authorised expenditure incurred by private schools in the form of maintenance grant for many years. Subsequently, this policy was liberalised and the grant was enhanced to three fourths of the net authorised expenditure from 1947.

At the time of the reorganisation of the state there were different rules for grant-in-aid in different regions of the state. In princely Mysore, the government used to meet 75% of the net expenditure. To bring about uniformity in all regions, the state passed an order in 1962 fixing 80% of the net authorised expenditure for schools in urban areas and 85% for schools in rural areas as eligible for government grants.

Later, the government evolved the grant-in-aid codes and brought all private sector institutions at all levels under the codes.

A Uniform grant-in-aid Code was made applicable to all secondary schools in 1961–62. Apart from salary grants, High schools were also eligible for recurring grants which were given for contingency, rent and maintenance charges as per rules. Non recurring grants for school buildings, playgrounds and equipment were also admissible.

According to the revised grant-in-aid policy of the government, private schools which were started between 1965 and 1970 got the grants only after three years of running the schools satisfactorily. This period was increased to five years for schools which started after 1970. Out of a total of 2060 high schools in the state in 1971–72, the number of private aided and unaided schools numbered 1349 (65%). This trend has continued to the present day.

The grant-in-aid policy was revised in 1967 and the grant was increased to 100% of salaries of teaching and non teaching staff and the same came to be credited directly to the individual bank accounts of teachers through the cheque system. This policy helped in curbing harassment of aided school teachers by their managements. In addition to this 100% maintenance grant, the schools were also eligible for 5% of the total maintenance grant towards contingency.

The grant-in-aid policy was again revised in 1987. According to this policy, private schools which were started after 1-06-1987 were declared as permanently unaided schools and hence declared ineligible for grants. At the time of application for permission to start a private school, the management had to file an affidavit on stamp paper that it would run the school as a permanently unaided institution.

The state also brought out relevant rules reiterating this policy in 1998 (Rules under the Karnataka Education Act 1983). These rules as well as the cut off date were upheld both by the High Court of Karnataka and the Supreme Court in several cases.

Bowing to the pressure from private institutions, the state relaxed this policy in its order dated 13 September 2002, and extended salary grants in the case of SC/ST institutions (primary and high schools only) established during the period 1 June 1987 to 31 March 1992 with certain conditions.

Grant-in-aid Policy—Collegiate Education

For a long time the government met 50% of the total authorised expenditure incurred by the aided degree (Arts, Science, Commerce and Law) colleges affiliated to recognized universities within the state as maintenance grant. But in 1964 this grant was enhanced to 70% of the net authorised expenditure. As per the amended grant-in-aid code of 1970 the following were the different types of grants payable to the colleges:

1. Teaching Grant (Maintenance grant)
2. Grants towards loss of fees

3. Building grant
4. Equipment grant

In 1972, the government enhanced the percentage of maintenance grant from 70% to 80%. This was further enhanced to 100% salary grant of teaching and non teaching staff.

However, an aided college was eligible for grant-in-aid only upon completing five years of working and a course in such a college was eligible for aid only upon completing five years from the year of its introduction. In addition, the aided college was to satisfy the norm of daily average attendance of students and the minimum number of working days prescribed by the respective university.

The nature of grant-in-aid is at present limited to teaching grant in the form of cent per cent direct reimbursement of salary of staff in aided colleges. However, as in the case of schools, all private colleges started after 1 June 1987 have been declared as permanently unaided colleges. Since 1990-91, no new courses started by existing aided colleges have been brought under grant-in-aid. Since 1993-94, there is a ban on filling up of non teaching posts also.

There was a relaxation only in respect of backlog vacancies pertaining to teaching posts and reserved for SC/ST candidates. These vacancies were permitted to be filled up under a special drive in 2002-03.

Change in Grant-in-Aid Policy (for Collegiate Education) 2000-01

The state announced a 15% cut in allocation of resources to the higher education sector in the budget of 2000-01 as most of the aided colleges were considered to be strong enough to mobilise their own resources. Since the management of private colleges refused to bear the additional 15% burden of salaries of staff, the government decided to freeze the recruitment of about 1035 teaching and 724 non teaching staff in aided colleges and reallocate the savings to wards payment of full salaries of teaching and non teaching staff.

Thus, a large number of teaching posts in these colleges remained vacant for a long time and were later converted into unaided posts. Decreased funding by government towards higher education has brought several well established aided colleges to subsistence levels and very few colleges (without independent resources of their own) have been able to maintain quality and standards.

This has also led many private aided colleges to start unaided professional courses like BBM, BHM, Computer Science and Electronics and thereby mobilise the much needed resources. Students have had to bear the brunt as they have had to shell out exorbitant fees for joining unaided professional courses.

As a result, in a single private aided college, there are different classes of teachers—those getting UGC scales of pay, those getting state government pay scales and those who subsist on nominal doles from the management. This definitely has affected the quality of classroom transaction and morale of the teachers in those colleges.

As far as private unaided colleges are concerned, the management contribution (mobilised through donations) is the single most important source of income (more than 90%), followed by student fees.

Grant-in-aid Policy—Technical Education

All the provisions of the grant-in-aid policy in the collegiate education sector equally apply to institutions in the technical education sector as well. As far as engineering colleges were concerned, the maintenance grant from the government was 75% of the net deficit or 50% of the authorised expenditure. The government revised the grant-in-aid code in 1966. The ceiling limits for equipment grant for engineering colleges was Rs 50,000/- and for polytechnics was Rs 20,000. From 1972-73, the maintenance grant was enhanced to 85%.

Table 18.8

Quantum of Grant in Technical Institutions

Type of Grant	Quantum of Grant
Maintenance	85% of the maintenance expenditure approved in excess of "Direct Receipts"
Towards Loss of Income	Equal to fee concessions and scholarships
Building	Not exceeding half the total expenditure subject to a ceiling of Rs 50,000/- per year
Equipment	Up to 50% of the value subject to annual ceiling of Rs 50,000/- in case of an engineering college and Rs 20,000/- in case of a polytechnic

The Demerits in the Current Grant-in-Aid Policy

Government and aided teachers get identical salaries. While the government teachers are recruited through a CET and on merit-based roster system, private school teachers are recruited by managements, sometimes on considerations other than merit. This has led to an evil system of collection of donations from prospective candidates and poor quality of teachers being appointed in aided institutions.

Private aided institutions (in the school education sector) have a history of declining student strength. The government was forced to pay salaries to hundreds of teachers for a number of years both in elementary and secondary education sectors, even when the schools did not have the optimum student strength. After the High Court passed strictures, the government formulated rules to deploy excess teachers to other aided institutions. Even this system did not work well as many schools were not in a position to take teachers appointed by other schools due to various reasons. These rules could not be applied to minority schools as well.

The sub sector study on elementary education suggested that grant-in-aid should not be sanctioned on the basis of number of classes (as is the case), but should be based on students' achievement and per pupil cost. This has the advantage of allowing selectivity in funding to reduce education gaps.

Grant-in-Aid Codes

The grant-in-aid code legally constitutes a record of understanding between the state and the management of private educational institutions, of the terms and conditions on which the state government extends aid to them.

The salary paid to the teachers of a private educational institution by the government is only in the nature of advance financial grant to the management and the amount so paid stands adjusted towards the amount payable to the institution under the grant-in-aid code. It is mandatory for all aided institutions to secure prior permission for filling up any vacancy and they are bound by government directions on the constitution of the selection committee for recruitment.

In order to regulate private educational institutions (including institutions run by local bodies) in the state and provide grant-in-aid to them, the state formed separate grant-in-aid codes for the following types of educational institutions.

1. Primary Schools
2. Primary Teachers' Training Institutions
3. Secondary Schools
4. Secondary Teachers' Training Colleges
5. Collegiate Education
6. Technical Education

The general purpose of the grant-in-aid codes is to extend and improve secular education in the state. The codes also prescribe general conditions for giving aid to private recognised institutions.

General Conditions of Grant-in-Aid

These codes specify the general conditions for starting of new institutions like the need for a private institution in the area, the adequacy of accommodation, equipment and furniture provided, number of teachers with prescribed qualifications, financial resources of the institution, whether the institutions satisfy the rules and regulations of the department, etc. The institutions are also required to be open to all communities without any distinction of caste, creed, race or religion.

These codes prescribe the procedure for grant of permission to start educational institutions, recognition of such schools by the department, approval of appointments in these institutions, conditions of service of staff, reservation of posts for SCs/STs, prescription of staff pattern for various types of institutions, withdrawal of recognition, and providing grants to recognised institutions.

Objects of the Grants

Grants are given by the state government for the purpose of

1. Maintenance of educational institutions;
2. Acquisition of sites, erection and improvement of school buildings;
3. Improvement of playgrounds and permanent fixtures;
4. School equipment.

Maintenance Grant

The maintenance grant includes teaching grant (100% salaries to teaching and non teaching staff) and contingent grant to the extent of 5% of teaching grant. The government arranges for direct payment of salaries to staff. Contingent grant is for meeting various sundry expenses of institutions like stationery, water and light charges, repairs, etc.

Scale of Salary Grants

1. **Primary School:** One teacher for every 50 pupils on roll and 40 pupils on the average attending the school. When the pupil strength exceeds 75 (average attending exceeds 60), there is provision for bifurcating the section and for an additional teacher. If the number of teachers in the school is more than 10, then one additional teacher, preferably a trained graduate who will be the head of the institution, is permitted. Otherwise, there is no separate post of Head teacher with the seniormost teacher to act as the head of the institution.
2. **Primary Teacher Training Institute:** One superintendent, one graduate teacher for each class and one craft teacher.
3. **Secondary School:** For a school with 3 classes, one Head teacher, 4 graduate assistant masters, one Kannada pundit, one physical instructor, one craft teacher and one Hindi teacher. For a school with more than 5 sections, one and a half teacher per section excluding Head teacher.
4. **Secondary Teachers' Training Colleges:** As prescribed in Government training colleges and NCTE.

Stability Funds

1. For primary schools, the stability fund prescribed is Rs 500/- per class
2. For primary TTIs, Rs 5000/- before starting and Rs 10,000/- before permanent recognition.
3. For secondary schools, Rs 50,000/- for starting the school.

Special Provisions

1. If the management committee does not function in accordance with the agreement, the state government has powers to remove it and appoint a special officer to manage the affairs of the school for a period of one year.

2. Records relating to academic and financial affairs to be maintained by the Head of the institution.
3. Officers of the department are empowered to seize the records whenever necessary.
4. Every institution is subject to periodical inspection of the department.

The Karnataka Education Act 1983

On the basis of recommendations of the Education Integration Advisory Committee headed by Prof A C Devegowda, the state government constituted Committees to draft a Comprehensive Education Bill in 1970 and again in 1973. Finally, a third committee headed by Prof AC Devegowda was appointed in 1978 for this purpose. The Committee presented the draft bill to the state government in 1979 and rules thereunder in 1980.

The Bill which was introduced in the Karnataka Legislative Assembly in 1983 was referred to a Joint Select Committee. It was passed by the Legislative Assembly as well as the Legislative Council in 1984 and received the assent of the President after 10 long years in 1995 when it came into force. Thus essentially, the provisions of the Act are more than 30 years old. The Act which has 18 chapters and 146 sections, needs a thorough overhaul to be in accordance with the changes that have taken place in the education field in the past 30 years.

Important Provisions of the Act

1. The Act primarily focuses on government exercising greater control over private managements. There is some relief to teachers of private schools as they can appeal to higher educational authorities in case of injustice meted out by officers of the education department. This avoids costly and long drawn litigation in courts.
2. One chapter deals with compulsory primary education and another chapter deals with the constitution of State Educational Advisory Council.
3. The Act has provided for a three tier advisory body structure.
 - (a) The State Education Advisory Council
 - (b) Standing Committees for different levels of education
 - (c) Subject-wise advisory committees with powers to co opt experts for specific tasks on an ad hoc basis.

The state has not constituted any of the advisory bodies so far.

4. The framing of various rules under the Act has streamlined functioning of various educational institutions. A major highlight of the rules is banning of arbitrary charging of fees and donations by school managements.
5. The rules have laid down the minimum requirement and procedure to be followed for establishing new institutions.
6. The Act and rules prescribe appellate authorities which help both private institutions and their employees seek speedy justice without having to approach the High Court for all disputes.
7. The rules have simplified the provisions of grant-in-aid codes and empowered the government to redeploy excess teachers wherever student teacher ratio falls below prescribed minimum ratio due to depleting student strength in aided schools.

The Karnataka Private Educational Institutions (Discipline and Control) Act 1975

The Act provides for better discipline and control over the recognised private educational institutions in the state. Its object is the speedy and final disposal of disputes between the employees and the management of private educational institutions.

It provides for the constitution of an "Educational Appellate Tribunal" (EAT). Any employee aggrieved by the Board of Management of the institution can appeal against such order of the management to the Educational Appellate Tribunal. The EAT has jurisdiction similar to that of the labour court or the Industrial Tribunal.

Financing of Education

Financing of Education by State Government

Education in Karnataka is financed by state and central governments, the private sector and households. However, the state government happens to be not only the major provider of education but also its major financier. The education sector accounts for the highest share of the state government's revenue and capital expenditure (around 16 %—Table 19.4). But it is still low when compared to that incurred by other states on education: Kerala (18%), Tamil Nadu (17 %), Assam (22 %), Bihar (23%) and Rajasthan (19%).

Though the state government is a prominent spender at all levels of education, the focus of the government is significantly on elementary education. The WB Report "Karnataka: Financing Education 2002" estimates that at the elementary education level, the government spends three quarter of the total expenditure whereas at secondary and higher education levels, the government accounts for two thirds of all expenditure. At present, Karnataka is spending about 6% of the state's GSDP on the entire social services sector put together. Since social services encompass several sub sectors (health, education, rural development, social welfare, women and child development, etc.), the actual share of each sub sector is quite low. The expenditure on general education was only about 3% of the state's GSDP (Table 19.1), which is still lower than the country average of 3.8% of GDP.

Table 19.1
Expenditure under Different Heads as a Proportion of GSDP: Karnataka

Sector	1990–91	1998–99	2002–03
Social Services	6.32	6.00	6.01
General Education	3.03	2.78	2.99
Elementary Education	1.63	1.48	1.58
Secondary Education	0.89	0.89	0.93
University and Higher Education	0.45	0.35	0.42
Adult Education	0.04	0.01	0.005
Health and Family Welfare	1.00	0.93	0.88
Water Supply & Sanitation	0.31	0.58	0.42
Nutrition	0.28	0.09	0.08
Housing	0.15	0.21	0.28
Rural Development	1.01	0.45	0.46

Norms Prescribed by Kothari Commission

While the Kothari Commission prescribed a national level norm for educational spending as equivalent to or higher than 6% of the GDP, no such standardised norms are followed at the state level. It should be noted that this suggestion was made by the Commission in the sixties and with the current size of the population, the figure should be around 10%.

Despite the recent acceleration in economic growth in Karnataka, the performance in human development is just about average. Though there has been considerable improvement of educational indicators, large scale investments are still needed for improving the quality of education, especially in elementary and secondary education sectors.

The HDR 2005 estimates that the state will have to spend another 2% of GSDP on social priority sectors in order to achieve the human development targets set for the X Plan. It further estimates that to achieve UEE, the expenditure on elementary education as a proportion of GSDP must be increased from the present 1.6% to 2.5%.

Funding by Households

Households also invest in education because of the benefits that accrue through higher earnings. The World Bank in its report estimates that the share of household financing in total spending on education is one quarter at the elementary level and one third at the secondary and higher education levels respectively.

Financing of Education by Private Sector

Private institutions enrol more than two thirds of the students in secondary and higher education sectors and almost 85% in the technical education sector. Even here, the salary component in private aided institutions is met by the government while capital and maintenance expenditure is met by private managements. Since 90% of the expenditure in these institutions comprises salaries, in operational terms, there is very little difference between financing of government run and government aided institutions.

Financing of Private Unaided and Self Financing Institutions

As far as unaided and self financing institutions are concerned, the entire cost of establishing and running them is met by the management, where financing is done through capitation, higher fees and public contributions. Most of the payments are unaccounted for and never openly admitted. The WB Report estimates that private sector expenditure amounted to 28% of all education expenditure in the state.

Analysis of the State's Plan Expenditures

The HDR 2005 reports that the share of plan expenditure in Karnataka's total expenditure is the highest among all southern states. While the state has increased its public spending on education in real terms, in relation to its income, it has fallen over the decade. At present about 7% of the state plan expenditure goes towards education. Mounting demands on scarce resources further complicates resource allocation to different sectors.

Table 19.2

Plan Expenditure: Main Sectors by Investment

Year	Irrigation	Energy	Education	Other Social Services	Others	Total
2000 - 01	34.25	7.94	6.78	25.20	25.83	100.00
2001 - 02	29.67	12.58	7.16	24.00	26.59	100.00
2002 - 03	35.73	10.61	4.18	22.71	26.78	100.00
2003 - 04	28.00	14.80	6.74	24.03	26.43	100.00
2004 - 05	27.96	13.88	8.14	19.19	30.84	100.00
2005 - 06	29.08	13.68	7.47	16.19	33.59	100.00

Figures in Percentages

Source: Annual Plan Documents 2000-01 to 2005-06

An analysis of the above table shows that within the priority sectors, investments in irrigation were maximum in a majority of the years while the energy sector received more than the education sector during all the years.

Within the government, the education department meets the major part of education expenditure and a small part is met by the social welfare department which finances residential schools, hostels and scholarships.

Increase in Expenditure on Primary Education

The drive towards UEE has led to a phenomenal increase in the number of students and schools, with a corresponding increase in number of teachers, building and equipment, which, in turn, has boosted the expenditure on education (Table 19.3). The periodical revision of scales of pay and DA of teachers and introduction of hot cooked midday meals and other incentives are also responsible for increase in expenditure on school education. The following table gives an idea of how expenditure on primary education has increased over the years.

Table 19.3

Increase in Expenditure on Primary Education

Year	Expenditure* On Primary Edn	Percentage of Exp on Pry. Edn. to Total Expenditure on Edn.
1947 - 48	78.18	
1951 - 52	131.84	36.37
1956 - 57	** 520.76	37.69
1960 - 61	770.68	60.90
1965 - 66	1372.30	57.00
1970 - 71	2620.41	47.30
1985 - 86	19698.24	42.60
1990 - 91	40777.00	55.44
1995 - 96	88528.32	49.80
2000 - 01	171731.22	52.81
2007 - 08	292454.61	49.20
		57.31

** Increase in expenditure was essentially due to integration of the state

Source: Various Budgetary Reports * in lakhs

At present, the state spends about 12–13 % of the total outlay on general education and about 16% totally on the education sector. However, a major portion (more than 50%) of this is earmarked for primary education. The HDR 2005 has analysed the allocation to various sub sectors of education for the year 2002–03.

Table 19.4
Allocation to Various Sub Sectors within Education Sector 2002–03

<i>Sub Sector</i>	<i>Revenue Exp. %</i>	<i>Capital Exp. %</i>	<i>Total %</i>
General Education**	91.4	70.1	91.4
Elementary Edn.	48.3	NR	48.3
Secondary Edn.	28.4	26.7	28.4
University & Hr. Edn.	12.8	43.4	12.9
Technical Edn.	2.4	2.8	2.4
Medical Edn.	3.4	27.7	3.4
Agricultural Edn.	2.8	0.0	2.8
Exp. On Education*	19.8	0.2	16.6

NR: Not Reported as exp. was under ZP/TP programmes

*Expenditure on Education (16.6%) is the proportion to total expenditure of the state

** 91.4% is the proportion to total expenditure on education

Source: HDR 2005

Thus expenditure within the education sector is characterised by the dominant role of

1. Revenue expenditure in all types of education;
2. General education within the education sector;
3. Primary and secondary education within general education.

Budget (2006–07): An Overview

If we take the 2006–07 budget into consideration, allocation for general education was 12.19% (excluding medical and agricultural edn.) of the total budgeted outlay.

Table 19.5
Total Outlay of the State (2006–07)

Revenue Account	35,875.08*
Capital Account	6,003.05*
Total	41,878.13*

*In crores

Source: Budget 2006–07

Table 19.6
Allocation for General Education (2006-07)

Plan	1072.47*
Non Plan	4030.80*
Total	5103.27*

*In crores

Source: Budget 2006-07

The following table gives sub sector-wise plan and non plan expenditure on general education in the budget for 2006-07.

Table 19.7

In crores

Sl No.	Sector	Plan	Non Plan	Total	Percentage
1.	Elementary Education	744.38	2180.17	2924.55	57.31
2.	Secondary Education	190.03	1350.64	1540.67	30.18
3.	University & Hr. Edn.	26.38	485.50	511.88	10.04
4.	Adult Education	7.27	2.09	9.36	0.18
5.	Language Dev.	4.40	9.27	13.67	0.27
6.	Other Gen Edn.	100.01	3.12	103.13	2.02
Total		1072.47	4030.79	5103.26	100.00

Source: Budget Reports (Education) 2006-07

Elementary education receives the highest share of both plan and non plan expenditure followed by secondary and higher education. As is seen from Table 19.7, slightly more than half of the educational expenditure (57.31%) is on elementary education and about 30% is spent on secondary education. (Pre university education receives about 20% of the budget earmarked for secondary education).

This means that more than 80% of the budget is spent on school education. However, 90% of this expenditure is towards salaries and allowances of government and aided school teachers, and very little is left for quality improvement programmes and capacity building in existing institutions.

A majority of the expenditure in elementary and secondary education sectors is incurred on salaries of teaching and non teaching staff, construction and maintenance of school buildings, maintenance of schools, etc. It is incurred through the BEO in case of elementary education and the head of the respective institution in case of secondary education.

Key Issues in Financing of Education

The H D R 2005 has commented, "The non salary component is low and the expenditure on infrastructure, teaching aids, curriculum development, instructional material, laboratories, libraries, in-service teacher training, in short, all the things that contribute to the quality of education, is totally inadequate".

Hence, this calls for a substantial increase of the non salary component in the state's plan. The WB Report has also identified this as one of the key issues which needs to be addressed to improve efficiency in public spending.

The following are marked as the key issues in financing education in the state:

1. The salary component of various sectors of education accounts for nearly 90% of the total outlay. Thus, very little is left for other development purposes.
2. In order to achieve quality and improve learning outcomes, greater emphasis needs to be placed on non salary components—infrastructure, laboratory and library facilities, TLM, curriculum and teacher training. e.g., in the Pre university sector, it is a mere 4% of the budget, leaving very little either for academic activities or improvement of infrastructure.
3. With increase in salaries and number of teachers every year, unit costs are rising which makes the demand for increased share of non salary components stronger.
4. The WB Report also points out that the distribution of expenditure is negatively correlated with educational backwardness of districts, with the educationally more backward districts having higher pupil teacher ratio and lower per pupil expenditure.
5. Regional disparities in public spending are a result of state level decisions rather than the differing fiscal and economic capacities of the districts.

Over the years, the state has felt the need for expanding, restructuring and raising the quality of education system which, in turn, would impact the economic and social development of the state. This is the reason for the state to commission various sub sector studies and constitute task forces in education.

However, apart from some austerity measures and cost cutting exercises, very little financial reforms have been implemented in the state. In the context of improving educational performance, a well defined financing policy which includes changing the pattern of devolution and sanctioning resources to the needy areas/sectors is necessary.

Financing Incentives in Education

The state government is providing many incentives and subsidies to stimulate demand by offsetting the private costs of education. Education is free up to X standard for boys and up to XII standard for girls in government institutions. The tuition fee in the higher education sector (except self financing institutions) is also heavily subsidised.

Elementary students in government institutions receive free textbooks and uniforms. Girls studying in government secondary schools also receive free uniforms. Students studying in all government and aided (elementary and secondary) schools are covered under the hot cooked midday meal scheme.

SC/ST girls in V to VII standards receive free school bags and notebooks. SC/ST students at secondary and higher levels receive subsidised instructional materials and scholarships. Students from SC/ST/Backward/Minority communities also get free/heavily subsidised hostel facilities. All students get transport concessions from the public sector transport corporations.

It is only in unaided and self financing institutions (at all levels) that parents finance all the costs of education (fee, educational materials, uniforms, books, etc.) of their wards.

Anomalies in Financing of Institutions

Government Institutions

Government institutions are established, administered and maintained by the state government. Infrastructure facilities such as building, furniture, laboratory, library and sports facilities, are also provided by the government. It appoints both teaching and non teaching staff and pays salaries to them.

However, a visit to government institutions gives one the impression that they have a long way to go when compared to well managed private institutions. This could be due to inherent deficiencies—inefficient administration, poor maintenance of facilities, low academic standards, etc.

Anomalies in the Shift System

In several cases, a government high school is opened in a primary school building, a government pre university college is opened in a high school building and so on, causing inconvenience to both the institutions. Both institutions put up with the shift system which cuts into their academic time. In such cases, Junior colleges work only for four hours from 8 a.m. to 12 noon. In fact, this is more the norm than an exception. The teaching staff does not usually complain as their workload is reduced. It lowers the quality of classroom transaction and the entire exercise shows up in the form of poor results.

Losses due to Delay in Construction of Government Buildings

It probably takes several decades for the new institution to get its own building and infrastructure facilities. The government incurs losses of crores of rupees every year due to faulty planning and execution resulting in escalation of costs, undue delays in completion while causing inconvenience to the beneficiaries.

Financing of Grant-in-Aid Institutions

In respect of private aided institutions, the private managements have to create infrastructure facilities including building, qualified staff and the institution for several years before becoming eligible for grant-in-aid. Even then, the government provides grants which take care of only the salary component of the teaching and non teaching staff (only whose posts are approved and admitted to grants by the government).

The grant-in-aid policy of the government has been discussed in detail in chapter 18. Here, we confine the discussion to the cost of financing private aided institutions. The heavy cost of financing grant-in-aid institutions is also impacting the pattern of expenditure on education. The government took a courageous decision to declare all private institutions started after 1 June 1987 as permanently unaided institutions. In order to derive political mileage, every new government has relaxed the norms (at least in elementary and secondary education sectors) and has brought more institutions under the grant-in-aid scheme. This has negatively impacted expenditure on focus areas in education.

Since a majority of elementary schools in the private sector are in urban and semi urban areas and cater to middle class and above clientele, they do not significantly contribute to the goals of UEE.

The WB Report has advocated restructuring the grant-in-aid mechanism on grounds of efficiency and equity. It has also indicated that "the aid to private schools benefits the higher income groups to a great extent while the poor benefits more from spending on government schools". This is true at least as far as elementary and secondary education sectors are concerned.

Hence, the WB Report advocates "A revised policy should target subsidies to poor students to enable them to access secondary and higher education and encourage the private sector to seek efficiencies without compromising on quality".

Central Government Expenditure on Education

Though comparatively small, when compared to state expenditure, central funds have always to a large extent influenced state policy—in the choice of new programmes, prescribing priorities, etc., The state has accepted these funds under various schemes for improvement of education that include financing additional teachers, classrooms, laboratory and library materials, and TLM.

Central government funding is done through CSSs and special programmes like DPEP and SSA, apart from budgetary support to initiatives and projects like OBB, computer education, promotion of science, teacher education, etc.

The most important central schemes are the OBB which financed additional teachers and classrooms, the teacher education scheme (which financed the 27 DIETs and 6 CTEs in the state), the DPEP funded by the World Bank and the SSA for UEE. The OBB financed 37,000 additional teachers and 21,000 additional classrooms in the state between 1990-91 and 1998-99. DPEP and SSA have contributed significantly to the improvement of the elementary school system in the state.

However, the experience of CSSs in improving quality has not been totally satisfactory. Even though these schemes have some scope for modification with state specific focus, the state has accepted the general parameters set by them. Rigidity in norms has led to procurement of low quality materials (as in OBB) and construction of smaller classrooms. Thus, the planning process has been impacted due to the top-down approach whereas it should have been a bottom-up approach.

SSA Annual Work Plan for 2007-08

The SSA budget for the Annual Work Plan for Karnataka for 2007-08, as approved by the Project Approval Board, is detailed below.

1. SSA outlay – Rs 682,34.60 lakhs
2. NPEGEL – Rs 5,53.09 lakhs
3. KGBV s – Rs 9,58.31 lakhs

Thus, the total approved outlay for Karnataka was Rs 697,46 lakhs. This outlay is still too small when compared to the state's expenditure on elementary education. But every year, the total allocation under SSA has not been spent due to a variety of reasons.

Financing of Teacher Education

Teacher education and the teaching profession have all along attracted people of average ability as it has been a low paid job. Today, teachers are paid fairly well but still the profession has failed to rope in good talent. It is true that all government and aided teachers enjoy security and good emoluments but staff in unaided institutions get relatively low salaries.

The expenditure on DIETs/CTEs/ IASE is met from the central funds under the teacher education program. The expenditure on elementary TTIs is met by the state under the primary education budget head. The expenditure on secondary teacher training colleges is also met by the state under the higher education budget head. There are financial constraints in meeting the total annual expenditure of the teacher education institutions under both the heads, especially for salaries in aided institutions, as the state has considered it a non priority sector. As far as private unaided teacher education institutions are concerned, part of the expenditure is met by the fee prescribed by government in these institutions.

Table 19.8

Fee Structure (Prescribed in 2000) in Secondary Teachers' Colleges In Rupees

Category of College	Category of Seats	Tuition Fee	Development Fee	Total
Government/University Aided	Government	3,000	Nil	3,000
	Government	3,000	1,000	4,000
	Management	8,000	5,000	13,000
Private Unaided	Government	6,000	2,000	8,000
	Management	30,000	5,000	35,000

Source: GO ED 131 URC 2000 dated 22/7/2000

Apart from the above fee, an approved fee of Rs 2125 is collected from all students towards sports, AVE, reading room, laboratory, etc. In spite of the government prescribing the fee structure, students spend Rs 20,000 to Rs 30,000 as donation for procuring seats in private institutions under the management quota.

Private institutions have the pressure of adhering to NCTE norms regarding infrastructure, teaching staff and quality. Hence, their need is a growing one. On the other hand, the staff is not paid as per government scales. It seems that they have been established with the sole purpose of making money. There is also the critical issue of maintenance of quality in these institutions.

Procedural Deficiencies in Distribution of Finances

1. Even though the salaries of government and aided school teachers are paid through banks, teachers seldom get salaries on the first of every month. Sometimes the salary date stretches to beyond the tenth or fifteenth of the month. Given the mandatory and motivating nature of salary payments, the Price Water House Coopers report recommends adopting an automatic clearance mechanism, where, on a specific date in each month, the salaries of teachers would be transferred to individual accounts, unless there is an order for withholding of salaries with justified reasons from a designated officer. Given the technological advances that the state has made so far, this should not be a problem.
2. Under the SSA programme, a training budget of about Rs 70 per teacher per training day is provided. However, there are no such scales prescribed for secondary teachers, officers and ministerial staff. A uniform scale may be prescribed for different categories of staff. Since Rs 70 were fixed a few years back, periodical increases are necessary to offset the rise in prices. The revision is also necessary as the TA increases in proportion to the distance from the school and DA is directly connected to the population of the place. The cost of conducting programmes at the state level, district level and at the block levels are not the same.

Financing of Higher Education

The increase in enrolment in secondary education (and hence Pre university education) over the years has resulted in a corresponding increase in enrolment in higher education. Many of these entrants are first generation learners, girls and students belonging to SC/ST and backward class communities who have traditionally not enjoyed easy access to higher education.

Government Colleges

Government colleges and, to a lesser extent, private aided colleges, have traditionally provided education to this class of students with a reasonable fee structure. Here, the state does not have a clearly defined policy of funding higher education. Different yardsticks are adopted in funding government and private colleges.

In the case of government colleges, the state bears all expenditure (net of students' fees)—infrastructure such as buildings, laboratories, libraries along with maintenance, salaries, etc. Hence, subsidised education in government colleges has enabled poor students to access higher education by reducing its cost.

Grant-in-Aid Colleges

In case of aided colleges, the state grant-in-aid is at present limited to the teaching grant in the form of salaries of teaching and non teaching staff of institutions started prior to 1 June 1987. No new courses have been brought under the grant. Since 1993–94, there has been a ban on filling up vacant posts of non teaching staff. A large number of teaching posts have remained vacant for several years and are gradually being converted into unaided posts. An increase in student fees with a built-in provision for annual upward revision has been put in place.

The sub sector study on collegiate education points out that in 1999–2000, the share of expenditure in grant-in-aid colleges met by government grants was to the tune of 86%, students' fees accounting for 3.55% and the rest of expenditure being met by management contributions.

In the recent past, fiscal reforms at the state level included reduction of expenditure in higher education sector. The decreased funding by government towards higher education has brought several established aided colleges to subsistence levels and very few colleges (without independent resources of their own) have been able to maintain quality and standards.

As far as private unaided colleges are concerned, the management contribution is the single most important source of income (more than 90%), followed by student fees.

Budgetary Subsidy to Higher Education

The report of the Karnataka universities review commission points out, "...higher education in universities has been subsidised to a great extent. ...People who choose to go for graduate, postgraduate and professional courses decide to invest their money anticipating relevant returns from future employment which will be based on such higher education. Higher education cannot be treated as a basic need or social good as much as elementary education...Therefore higher education has to be treated as a private good constituting private wealth."

A study paper on subsidies in Karnataka (1997) which analysed the nature and volume of budgetary subsidies, notes, "While provision of primary and secondary education facilities may be considered as provision of basic minimum needs to the population and therefore the expenditure on them cannot be considered as subsidy, there is no reason why the entire expenditure or even a major part of it on technical/higher education should be borne by the state government.. Further, higher education is both costly and improves the skills and employability and income earning capacity of the beneficiaries. Therefore, the beneficiaries should pay for such higher education. ...80% of the cost of higher education is subsidised. It should be possible to reduce the extent of such subsidy in higher education without affecting the services."

The HDR 2005 has estimated the implicit budgetary subsidy to higher education in Karnataka by using the framework in Narayana MR, "Budgetary Subsidies to Higher Education: Evidence from Karnataka State".

Table 19.9

Budgetary Subsidies to Higher Education

Aggregate Subsidy	2002–03
Rs In lakh at current prices	74464.83
<i>Figures in Percentage</i>	
Share of general education	63.06
Share of technical education	10.30
Share of agricultural education	13.80
Share of medical education	12.83
Aggregate subsidy to higher education to	
Total expenditure on	
(a) Primary Education	35.04
(b) Primary and Secondary Education	22.07

Source: HDR 2005

Of the aggregate subsidy, the largest share (63.06%) goes to general education. Subsidy to higher education in 2002–03 was 35.04 % (22.07%) of the total expenditure on primary (primary and secondary) education.

As already mentioned, the GOK has partially reduced funding to higher education. But several experts have pointed out that merely reducing funding without reforms will prove counterproductive. Because, doing away with subsidies will have an impact on education of those students who belong to low income families and disadvantaged groups.

At the same time, it is not equitable that children of the poor subsidise the education of the rich. Hence this sector needs major reforms which are as follows:

1. The real cost of higher education should be born by those who can afford;
2. Improving the quality of instruction and learning;
3. Granting autonomy to institutions;
4. Ensuring greater private sector participation.

Recommendations of the Task Force on Higher Education (Regarding Financing of Higher Education)

1. Public expenditure on education in the state should be increased. Expenditure on higher education should be scaled up to at least 20% of that on education as a whole.
2. Higher education should be treated on high priority basis. Hence, it should not be reduced to being a subsidy, but treated as an investment in development.
3. All funding on higher education should be considered as an investment as it is productive expenditure that will generate human resources. Without appropriate funding, the state cannot be expected to survive in a knowledge society and a competitive world economy.
4. The state government may employ the following methods to increase funding for collegiate education in particular and higher education in general:
 - Grant permanent affiliation to colleges and provide autonomy as funds can be accessed from the UGC on both counts.
 - Instead of loans, which have a poor history of returns in most countries, tax the educated employed over their working life taking into consideration the income earned.
 - Tax employers who employ graduates in accordance with the nature of the degree and the salary. Such a tax should include all employers—government and private companies.
 - Place a small tax on IT and other knowledge based industries as they maximally employ graduates of the system.
 - Permit colleges that do not want grants to opt out as is done in the case of schools, which do not want grants.
 - Introduce a differential system of tuition fees with high fees levied for those who go to private schools and low fees for those who go to government/municipal schools. Only then can equity in terms of cost of education to the individual be ensured. The college leaving and the school leaving certificates should contain details of the fees paid by students.

Financing University Education in Karnataka

Apart from state grants and internal resources (like affiliation, tuition and examination fee), the universities get grants from UGC for specific programmes. The following table shows the allotment of state grants to various universities through the budget allocation in the state budget of 2007–08.

Table 19.10
Allotment of Grants to Universities
In lakhs

<i>University</i>	<i>Plan</i>	<i>Non Plan</i>	<i>Total</i>
Mysore	214.00	3903.68	4117.68
Karnatak	14.00	3911.84	3925.84
Bangalore	30.00	3306.18	3336.18
Gulbarga	140.00	1457.49	1597.49
Mangalore	30.00	1188.46	1218.46
Kannada	100.00	403.78	503.78
Kuvempu	275.00	1486.67	1761.67
VTU	255.00	—	255.00
Open Uni.	50.00	—	50.00
Chairs in Uni.	15.00	—	15.00
Dravidian Uni.	10.00	—	10.00
Total	1133.00	15658.10	16791.10

Source: Budget 2007–08

Since the funds provided by the state do not meet the financial requirements of the universities, the universities enhance the affiliation and other fee (sometimes to an exorbitant extent), which the colleges pass on to the students in one form or the other.

Financing Technical Education

Financing of technical education is of utmost importance in view of its increasing role in the economic development of the country. The expenditure on technical education by the GOI is decreasing and less than 10% of the total outlay is earmarked for it with most of it going towards National Institutes. At least faculty improvement, R & D development and innovatory programmes need increased funding by the GOI.

As far as the state is concerned, the public expenditure on technical education is less than 2% of the total budget on education. Even here the major portion (60%) is spent on maintenance of government and aided engineering colleges and polytechnics. Additionally, salaries account for 90% of the total recurring expenditure.

Aided institutions can meet the approved maintenance expenditure as specified in the grant-in-aid code with great difficulty. There is hardly any money left for raw materials and consumables required in the laboratories and workshops. The sub sector study notes that the situation is not much different in government and other private engineering colleges. That is why some of the self financing private technical institutions in the state have better facilities and staff when compared to some of the government/university colleges.

The following table gives an idea of the increase in budgetary expenditure on technical education over the years in the state.

Table 19.11
Increase in Budgetary Allocation to Technical Education

Year	Plan	Non Plan	Total
1996-97	212.00	2439.89	2651.89
1999-00	672.27	4008.87	4681.14
2005-06	10419.80	7506.42	17926.22
2007-08	10725.71	7663.89	18389.60

Figures in lakhs

Source: Budget Papers GOK

The sub sector study report on technical education notes that private sector investment (excluding aided institutions) in technical education in the state amounts to Rs 1000 crores roughly by way of capital investment and Rs 120 crores by way of annual recurring expenditure. Compared to government expenditure on technical education, the private sector contribution is at least six times in monetary terms. Past students who have graduated from institutions also contribute significantly to their institutions.

The NPE 1986 has also advocated internal resource generation by technical institutes. Several institutes have been generating resources through consultancy, research, continuing education, donations, etc.

Brief Review of Expenditure on Education during Plan Periods

The First Five Year Plan (1951-56) gave priority to agriculture with an allocation of 67.25% of the total expenditure. Social services including education got the sixth priority. The budget allocation for education was mainly directed to complete the ongoing works and projects under the state plan. The total outlay was Rs 47.58 crores and actual expenditure was Rs 40.51 crores. Allocation for education was Rs 1.83 crores and expenditure Rs 1.61 crores.

In the Second Five Year Plan (1956-61), priority was given to agriculture and industrial sectors. The total outlay was Rs 145.13 crores and expenditure was Rs 142.82 crores. For social services including education, the outlay was Rs 31.00 crores and expenditure was more than the outlay at Rs 32.42 crores.

The Third Plan (1961-66) was the first comprehensive plan for the state. Providing free and compulsory education was one of its main objectives. The Third Plan had an outlay of Rs 246.22 crores and expenditure of Rs 264.75 crores. The social and community services were allotted an outlay of Rs 48.28 crores and actual expenditure was Rs 41.09 crores.

The following table gives the outlays and expenditure in three Annual Plans from 1966 - 69.

Table 19.12
Figures in Crores

	1966-67	1967-68	1968-69
Plan Outlay	53.07	60.25	51.32
Plan Exp.	55.57	63.27	*71.51
SS Outlay	7.50	7.42	7.95
SS Exp.	6.47	7.63	8.65

* Includes contribution of the state towards central projects

SS: Social Sector, which includes education

Achieving higher standards in quality of social services rendered in the state was one of the main objectives of the Fourth Five Year Plan (1969-74). The total plan outlay was Rs 350 crores and expenditure Rs. 592.96

crores. Rs 10 crore was allotted to general education and Rs 2 crore for technical education. The actual expenditure was Rs 7.34 crores and Rs 2.04 crores respectively. The number of primary schools increased from 32,090 in 1968–69 to 32,840 in 1973–74. The enrolment in primary schools increased from 36.92 lakhs to 42.12 lakhs during this plan period. The number of high schools increased to 2,203 and enrolment to 5.36 lakhs.

Providing basic needs of nutrition, food, housing and elementary education were some of the important objectives of the Fifth Five Year Plan (1974–79). Expansion and restructuring of education was also given priority. This enabled the department to fix 100% enrolment of children in the age group of 6–10 years and 50% enrolment of children in the age group of 10–13 years. The plan outlay was Rs 1,076.33 crores and expenditure Rs 845.27 crores. The plan was decreased by one year due to political compulsions.

The plans for the last year of the Fifth Plan and its subsequent year were converted to Annual Plans (1978–79 and 1979–80). The total outlay for 1978–79 was Rs 345.27 crores and for 1979–80 was Rs 385.39 crores. The expenditure was Rs 303 crores and Rs 345 crores respectively. During this period, the number of primary schools increased to 34,431 with an enrolment of 48.60 lakhs. The number of secondary schools increased to 2,497 and enrolment to 6.55 lakhs.

The main objectives of the Sixth Five Year Plan (1980–85) were to achieve UEE for children of 6–13 years age group within a period of 10 years and provision of non formal centres for those children who did not join regular schools. The focus was also on development of higher primary schools to ensure retention of children in the primary system and acquisition of effective literacy. Other social service areas like health, drinking water facility, child nutrition, non formal education and adult education were also given importance.

In the Seventh Five Year Plan (1987–92), out of the budget outlay for education, the highest allocation of 53% was made towards elementary education. This helped the sector to overcome shortages of funds faced in the earlier plan periods as well as provide basic facilities like school buildings, additional teachers, etc.

Only 5.77% of the state budget was allocated to education up to 1989–90. However, in 1991–92, due to the influence of NPE 1986 and POA 1992, the allocation for education was more than doubled to 15.14% and elementary education came to be allotted around 50% of the outlay on education.

Under the Eighth Five Year Plan (1992–97), the focus was on achieving UEE with opening of new schools, appointment of additional teachers, construction of classrooms, provision of incentives such as textbooks, uniforms, midday meals to improve enrolment, attendance and retention. The central scheme of OBB and the World Bank aided DPEP were also in operation in the state.

The education budget for 1999–2000 was as follows: Plan – State Sector—Rs 289.86 crores, District Sector—Rs 171.83 crores. This constituted 6.27% of the state plan outlay. With the share under nonplan being Rs 2,955.19 crores, the total allocation for education in 1999–2000 constituted 16.58% of the total state budget.

The sector-wise outlay for general education in 1999–2000 was as follows:

Table 19.13

Sector-wise Outlay for General Education, 1999–2000

<i>Sector</i>	<i>Outlay in Percentage</i>
Primary education	54.55
Secondary education	32.74
University & higher education	12.14
Adult education	0.02
Language development	0.53
General	0.02

Expenditure on primary education per child was only Rs. 1139 as compared to Kerala (Rs 1909) and India (Rs 1207) as per EFA assessment report (estimates pertaining to the year 1996–97). This expenditure per child rose marginally to Rs 1350 in 2002–03.

Apart from the state funding of education, the centrally sponsored schemes and the World Bank sponsored DPEP brought in additional funds for construction of classrooms, school buildings, appointment of additional teachers, supply of furniture, books and equipment, purchase of vehicles for BEOs and training programmes for teachers.

The table below gives an overview of the state expenditure on education from 1980–81 and the expenditure as a percentage of GSDP.

Table 19.14
State Expenditure on Education

Year	Total Expenditure	Exp. On Education	% for Education % of GSDP	Exp. On Education as
1980–81	1067	161	15.11	2.59
1981–82	1173	186	15.89	2.60
1984–85	2137	307	14.37	2.84
1985–86	2377	361	15.18	3.12
1987–88	2910	540	18.56	3.56
1989–90	3821	683	17.88	3.38
1992–93	6378	1040	16.30	3.15
1994–95	8401	1369	16.29	3.08
1996–97	11353	1806	15.90	3.19

Source: HDR 1999

The Tenth Plan (2002–07) outlay on education was Rs 1851.52 crores (4.25%) and expenditure was Rs 3707.97 crores (7.3%) at constant prices. Several steps were taken in the Tenth Plan to expand access to primary education, especially by the funding of SSA and the hot cooked midday meal scheme which directly impacted resulting in on considerable reduction in dropouts and out-of-school children. However, there were still several issues to be addressed at the elementary level—quality of content and pedagogy, teacher absenteeism, inadequate training of teachers, etc.

The Eleventh Plan (2007–12) aims to correct these deficiencies and focuses on improving quality of education especially in rural areas. It also begins the process of universalising secondary education. The massive expansion required in secondary education calls for expansion of secondary schools both in government and private sectors. The proposed state outlay (Rs 5557 crores) for Eleventh Plan is higher at 5.75% compared to the Tenth Plan outlay which was at 4.25%.

Priorities in Financing of Education

The state has the right priority in terms of allocation of a major portion of expenditure on elementary and secondary education. The large share of revenue expenditure indicates that additional allocation of funds needs to be made towards capital expenditure—creation and maintenance of additional infrastructure, teaching aids, curriculum development and textbooks revision, laboratories, libraries, in-service teacher training, quality improvement initiatives like computer education, Edusat, teleconferencing, etc.

This also calls for a host of reforms in several sectors—Pre university education and higher education, enhanced vocationalisation of education, reforms in the grant-in-aid policy through linking of grants to school performance, providing additional funding to educationally backward districts, taking school attendance as the norm instead of enrolment, taking school as the unit for funding, etc.

Priorities During the Eleventh Plan

The GOI Eleventh Five Year Plan document notes, "While private schools must be allowed to expand and even encouraged, it should be noted that a much larger proportion of the expansion in enrolment would come from the public schools...The Eleventh Plan must also focus on the pressing need to expand capacity in our institutions of higher education and technical and professional education." The document proposes to increase the outlay on education from 7.68% in the Tenth Plan to 19.29% in the Eleventh Plan.

The proposed thrust areas of Eleventh Plan in the education sector are—quality upgradation in primary education, expansion of secondary education, major emphasis on upgradation of higher education including technical education and ICT throughout the education system.

However, there is a danger that the bulk of the outlay on higher education will be spent on high profile investments—establishment of central universities, IITs, IIMs, Indian Institutes of Science Education, etc.—and very little of this money will percolate down to general higher education institutions which need additional resources the most. This is our past experience too.

Community Participation in School Education in Karnataka

"Local communities, through appropriate bodies, will be assigned a major role in programmes of school improvement."

—NPE 1986

"While SSA is formulated on the premise that the community can plan, it also accepts the tremendous requirement for developing capacities in communities to do so".

—SSA Framework for implementation 2000

The state has the responsibility to provide equitable and quality education. In this context, the school as an agency has to respond to the diverse needs of the society and interests of all the stakeholders within the community. Community participation and empowerment in primary education is perceived as an important key to the success of UEE in the state. Policymakers, educators, and others involved in education have sought ways to utilise the available limited resources of the community, efficiently and effectively, in order to identify and solve problems in the education sector and to provide quality education to children.

Community Participation

Communities have been defined by characteristics that the members share, such as culture, language, tradition, law, geography, class, caste, and race. The term "**participation**" can be interpreted in various ways, depending on the context. Shaeffer (1994) defines different degrees or levels of participation and provides seven possible definitions of the term, including.

- *involvement* through the mere use of a service (such as enrolling children in school);
- *involvement* through contribution (or extraction) of money, materials, and labour;
- *involvement* through 'attendance' (e.g., attending parents' meetings at school), implying passive acceptance of decisions made by others;
- *involvement* through consultation on a particular issue;
- *participation* in the delivery of a service, often as a partner with other actors;
- *participation* as implementers of delegated powers;
- *participation* "in real decision making at every stage," including identification of problems, the study of feasibility, planning, implementation, and evaluation.

Indicators of Community Involvement and Participation

One of the indicators for measuring community involvement is perceived to be regular participation of children in the school. If all the children of a specific age group are attending school and learning regularly, then we can assume that the community involvement exists (either in active or passive form), but this cannot be a guarantee for total participation of the community.

Historical Overview of Community Involvement

Historically, education was under the purview of communities (though in the hands of a privileged and select few), since it was not treated as a compulsory function of the state. However, as the state began to actively participate in its promotion during the nineteenth and twentieth centuries, the involvement of the community got watered down.

However, when the state took on the function of UEE, it became increasingly evident that community participation was not only indispensable but also helpful in achieving the objective faster. The Compulsory Primary Education Act of 1961 envisaged partnership in implementation with parents, as it catered to those who voluntarily got involved by sending their children to school.

To begin with, the community involvement was visible only to the extent of providing the basic infrastructure such as land and building for starting primary schools and other facilities like non formal centres. The norm for starting a primary school in a school-less habitation was that there must be a minimum population of 300 and the community should provide a temporary/permanent accommodation. As a result, hundreds of government primary schools were started between 1961 and 1980. The grant-in-aid system also enabled many local communities to start schools (though not uniformly) across the state.

Reasons for Low Community Participation

Though the concept of community participation in education has been recognised through various government initiatives, it has not yet taken off at a desirable level.

An analysis of district-wise disparities in education and other attainments in Karnataka reveals that there is a correlation between poverty, backwardness, gender disparity and education disparity within and across districts. This implies that low participation of certain sections of the community is responsible for these disparities. Hence, community participation in effective school management has been felt to be a key to universalisation of primary education in the state.

Nevertheless, the VECs and SBCs which were created with the sole purpose of encouraging community participation and fostering a sense of ownership, were not very effective as they came to be controlled by a few individuals for personal gains. Thus, the entire system worked much below potential.

Factors that Contribute to Community Participation

A study in community participation in Karnataka (undertaken by Smt. N Shanta Mohan, Smt. M D Gayathri Devi Dutt and Sri. Piush Antony) has listed the following factors that contribute significantly towards participatory intervention by the community.

1. Identifying problems significant to the specific community.
2. Articulating and creating a demand for redressal.
3. Working together with people in planning intervention and implementation.
4. Creating increased awareness of the community to its strengths and weaknesses.
5. Creating opportunities for community members to get involved in decision making.
6. Building capacities in the community to find appropriate solutions to their needs.
7. Identifying hidden potential of community members in mobilizing resources and in strategizing practical actions.
8. Creating learning opportunities for every age group.
9. Creating a sense of ownership to ensure sustainability.

This indicates that community participation becomes crucial to all initiatives aimed at UEE. However, the sustainability of community participation is dependent on several other factors. Once the external initiative—whether governmental or non governmental—ceases, the community fails to take over, which is definitely a matter of concern in the Indian context.

Process of Community Participation

The move to involve the community in the process of education has travelled a long way from an informal initiative to a formalised policy intervention in recent years, especially with the advent of programmes like DPEP and SSA as well as through the introduction of constitutional amendments. The SSA framework also states that the success of SSA will depend on the quality of community based planning process.

The transformation process of community participation went through the following stages in Karnataka:

1. Creating awareness among parents about the importance of sending their children to school regularly.
2. Persuasion rather than enforcement as a means of universal participation of children in primary education which is evident in the Compulsory Primary Education Act 1961.
3. The various incentive schemes for to children to participate in education.
4. Increased awareness which created more demand for education, which called for government or communities to step in to provide educational facilities.
5. Ensuring community support for establishing and managing new schools leading to a sense of ownership among the community.
6. Sustaining community participation through creation of school management committees for the purpose of mobilising physical and financial support to improve functioning of schools.
7. Enhancing community participation through implementation of legislative measures.
8. Total literacy campaigns have ensured a conducive environment for active participation of the community in school education.
9. Conduct of programmes like parent teacher meetings, Samudayadatta Shale have enabled the community to review the functioning of the school and also evaluate the work done by children
10. NGOs working in allied fields—health, child labour, self help groups—have been promoting an integrated approach to human resource development including education.

Strategies for Creation of Community Awareness

During implementation of DPEP, several strategies (such as school mapping and micro planning) were adopted to ensure community participation in bringing all children to school and for articulating their demand for improved social services. Community participation was also seen as a prerequisite for securing long term sustainability of these initiatives.

Enrolment campaigns, Melas, SDMC meetings and celebration of national festivals have been used to bring community closer to the school. Formation of VECs and SDMCs, periodical training of VEC members, SDMC members, interaction with other elected representatives have created awareness among community members towards participation and ownership in management and administration of the school.

School Betterment Committees (SBCs)

In order to inspire communities to be a part of the governance process of schools, the government introduced the system of establishment of SBCs. These committees took keen interest in improving the infrastructural facilities of the schools through mobilisation of community resources.

SBCs also participated enthusiastically in school enrolment programs. Some of them provided prizes and scholarships to regular and meritorious children. During the seventies and the eighties, block and district level SBC conferences organised by the department were a regular feature. Despite these efforts, several studies have pointed out that there was lack of sustained in community participation in the education system.

Village Education Committees

One of the major recommendations made by the NPE 1986 was related to promoting participation of the local community in primary education and empowering it in the management of these institutions at the local level. The NPE and POA suggested decentralised management of education at all levels (district, sub district and panchayat levels) and involving the community in the decision making process.

This helped the establishment of VECs at the village level in Karnataka. Local communities were henceforth able to take part in the supervision of primary education. This also brought to the fore that participation of communities was integral to any programme aimed at UEE.

The constitution of VECs was made mandatory by the promulgation of an executive order issued in 1995. The VECs comprised 7–15 members, with one third of the members being women. The VECs also had representation from SC/ST/teachers/AWCs/ persons interested in education. This, in a way, helped the village community to play an important role in the management of village schools.

Role of DPEP in Community Participation

Major primary education programmes like DPEP also involved the promotion of community participation in the management of education as a major thrust area. DPEP envisaged the community participation from a development perspective. Thus, the community was involved through mass campaigns like kalajathas (cultural processions), enrolment drives, chinnara melas (children fairs), formation of VECs and training.

A large number of VEC members were empowered to manage schools and trained to become aware of their functions. The DPEP involved them in micro planning activities, training and motivating parents to send children to school, evolving strategies to reduce dropouts, mobilising resources to support activities in the school and implementing adult education programmes in the village.

Constitutional Amendments

The move towards decentralisation and empowerment of the community got a further fillip with the 73rd/74th amendments of the constitution relating to Panchayat Raj Institutions. They recommended delegation of authority to these institutions with relation to primary and secondary schools, vocational education, adult education and non formal education. This was an important move in recognising the inevitability of community participation in all social sectors as well as their development.

The Panchayat Raj Act of 1993 enabled the VPs to utilise the VECs to help create public awareness, involve the community in the management of primary and secondary education, ensure total enrolment and retention in primary schools and promote adult literacy.

The Janashala Programme

The Janashala Programme was implemented in 10 educationally backward blocks (in non DPEP districts) of the state having low female literacy. These were Sira, Madhugiri and Pavagada in Tumkur district; Arakalagud and Holenarasipura in Hassan district; Hiriya and Challakere in Chitradurga district; Koppa in Chikkamagalore district; Honnali in Davanagere district; and Haliyal in Uttara Kannada district.

The programme envisaged organising and enhancing capacities of local communities to help them participate effectively in the management of schools. The strategies initiated by this project to transform the existing schools to community schools were:

1. Establishment and empowerment of VECs;
2. Awareness through media and communication;
3. Micro planning; and
4. Organising Chinnara Melas.

School Development and Monitoring Committees (SDMCs)

In this context, the state took an important step in 2001 by creating a democratic institution in the form of an SDMC to manage the affairs of the school. The SDMC was visualised to overcome the limitations of the SBC and the VEC and motivate the community to treat the school as a community owned institution. The involvement of parents in the SDMC helped break the monopoly of a few dominant individuals over the affairs of the school.

Constitution of SDMC

An SDMC consists of 9 parent representatives 3 of whom are women; 2 are from SC/ST and one from the minority category. School donors who donate minimum of Rs 10,000 in cash and kind, 2 local NGO representatives, one member of the local youth association, one educationist or a retired school teacher and one student (from VII standard/X standard) are nominated members. The nominated members have no right to vote.

The members of the GP, TP and ZP from the local area are ex-officio members. One anganawadi worker and field workers of the area PHC are also ex-officio members. The Head teacher of the school is the member secretary of the committee. The term of the SDMC is three years.

Roles and Functions of SDMCs

The SDMCs are visualised to play a vital role in overseeing the regular activities of the school, teachers and children. They also monitor the work of the teachers, punctuality, regular attendance, etc. They implement enrolment campaigns and bridge course programmes. They supervise the enrolment, retention and attainment of students. They maintain infrastructure facilities through collection of donations and utilisation of funds given to the school by government agencies.

Devolving financial powers and other related responsibilities has facilitated the empowerment of the SDMCs. This has also resulted in developing a sense of ownership of the school by the community. It is to be noted on record that several SDMCs in the state are doing excellent work. They have also played a major role in improving the infrastructure in their respective schools through local contributions.

Results of SDMC Research Study

The SDMC research study undertaken jointly by PPU, APF and National Law School in 2004 has made the following observations:

1. A number of schools lacked basic facilities—infrastructure, TLM, library, etc.
2. In spite of every school being required to work for a minimum of 220 days in a year, some worked for less than 200 days.
3. Many schools did not possess literature relating to SDMCs.
4. In several cases (about 2%), the monitoring mechanism was ineffective in documenting non formation of SDMCs and in taking further action.
5. Many SDMCs did not focus on learning achievement of the students.
6. There was wide variation in members' level of awareness regarding objectives, powers and functions of SDMCs.
7. 83% of the Presidents and 50–70% of the ex-officio members attended the monthly meetings but many regular members were irregular.
8. Many of the student representatives were unaware of the meetings because they were not informed and there was no clarity of their role.
9. Five out of eight block level officers felt that the SDMCs were functioning well and they had a positive impact on school development.

10. Teachers were not aware of the happenings in the SDMCs and hence did not appreciate their performance.
11. Most of the SDMCs had prioritised civil works and had made contributions to them.
12. There was need to protect the autonomy of SDMCs both at the time of formation and in their day-to-day functioning.

Issues Relating to SDMCs

Subsequent discussions regarding the role of SDMCs and rectification of deficiencies in the system have taken place discussed in various committees. Some of the important issues are:

1. There are several reports of tensions between the teachers and the SDMC members.
2. Most of the SDMC members are non literate and unaware of the several education issues and tend to view issues rather narrowly.
3. Several cases of harassment of lady teachers by SDMC presidents and members (leading to suicides of lady teachers in several cases) have been widely and regularly reported in newspapers.
4. Some cases of misappropriation of school funds by SDMC functionaries have been reported.
5. Several SDMCs are not fully functional and sometimes controlled by one or two dominant members.
6. SDMC members are totally indifferent towards the school or want only to control the teachers.
7. The main objective to spend the allotted money, which in turn, has led to misappropriation in several cases.

The Perspective Plan Committee suggested that –

1. The department should try to remedy the current deficiencies in the system by taking preventive action rather than by reacting to situations after they take place.
2. Some sort of security system for lady teachers should be put in place.
3. SDMCs need to be totally depoliticised in order to make them work effectively.
4. There is also need to further empower and strengthen the SDMCs. But there should also be checks and balances to prevent them from harassing the teaching community and misusing the scarce resources of the school.
5. The SDMC members have to be periodically and effectively trained about their duties and responsibilities towards the school.
6. As far as using community resources are concerned, it will definitely help if local knowledge, local festivals and cultural events are used by teachers to enhance the knowledge base of children. In this context, the teacher can use the help of local educated youth and talented local artists to supplement classroom teaching.

School Adoption Programme

The School Adoption Programme was launched by the state in 2000 as it was realised that, given the resource constraints and limitations, it is not possible for the government alone to provide all the basic necessities in government schools. The programme was well received by the community.

Individuals, past students, NRIs, community members and NGOs adopted schools and provided additional infrastructure and basic facilities to schools in the form of school buildings, drinking water, toilets, land, playground, library, laboratory, furniture, etc. As at 2006, a total of Rs 200 crores had been mobilised in cash and kind in 9226 schools of the state.

Samudayadatta Shale (School towards Community)

This was another important programme started in November, 2000, which created a bond between the school and the community and encouraged the latter's participation. It was an attempt to create awareness among parents and the community that the school is owned by them and educational programs are to be conducted in consultation with them.

Accordingly, on a designated day, the education minister and all the officers of the department and designated secondary teachers visit schools and participate in the day-long activities of the school.

Shikshana Samvada

This is an interaction programme held once a month on AIR/TV and provides an opportunity to parents and the public to interact with the Education Minister and other senior officers of the department on matters related to education. This helps the department to create awareness, know the pulse of the people and get valuable feedback from the community on various departmental programmes.

Role of NGOs in Education

"Unlike the public sector which is often accused of inefficiency and non responsive behaviour, or the private sector which, driven by profit, prices itself out of the reach of the poor, the voluntary sector is perceived to be motivated by altruism, making it a suitable catalyst for promoting sustainable development of the poor in rural areas; an agency capable of giving voice to the needs and aspirations of people enabling the growth of local participatory mechanisms for self empowerment". HDR 2005

The HDR 2005 points out that a dynamic civil society is the best safeguard against bad governance, inefficient service delivery and the hierarchical structures of decision making that result in delays and red tape. It further points out that NGOs have begun to emerge as key players in various human development sectors, thereby supplementing public efforts.

NGOs are associated with efficient and participatory service delivery systems. The inherent strengths of some of the good NGOs are—willingness to work in remote areas among the depressed classes; ability to set in motion a participatory process in identification of the needs, the design and implementation of programmes; the readiness to mobilise and use local resources; a non hierarchical approach in working with people; cost-effective service delivery; freedom from red tape and freedom to innovate.

Role of NGOs in Karnataka

NGOs have been instrumental in promoting health care, literacy, poverty alleviation through sustainable development, rehabilitation, women and child care, human development programmes, environmental protection. HIV/AIDs support programmes, agriculture extension services, etc. They supplement government services in a significant way.

Categories of NGOs

NGOs are categorised according to their main activity. However, it is also possible that an NGO starts with a particular activity and branches off into another activity. The Directory of Voluntary Organisations in Karnataka (2000) has profiled 530 NGOs. A majority of them are situated in Central and South Karnataka. According to this directory, the main categories are

1. Culture and Arts;
2. Education;
3. Health and Rehabilitation;
4. Social Service;
5. Environment;

6. Development;
7. Law and Advocacy;
8. Support Organisations;
9. Religion

There are 44 NGOs working in the field of education in the state as at 2000.

Issues Concerning NGOs

1. The larger NGOs develop hierarchies and start duplicating the government in all their activities which reduces their effectiveness.
2. Many NGOs are dependent on donor funds, which can be conditional, thus robbing them of flexibility in operations.
3. Lack of transparency regarding donors and use of their funds.
4. The next serious issue is mandate and accountability—Professing to speak for the people or acting as alternatives to government structures undermines the credibility of NGOs.
5. Most NGOs are small, lack institutional capacity, have access to limited funds and are capable of dealing with only single issues and in selected small pockets and hence unable to make substantial difference to programmes and activities.
6. There are instances of certain NGOs bidding for contracts from government which also undermines their purpose and credibility.

Role of NGOs in the Education Sector in Karnataka

The government felt that the support of voluntary organisations, the community and NGOs was necessary in order to achieve the goals of EFA and UEE, especially in the areas of access, retention and achievement. While most government initiatives have been on the supply side of education, several NGOs have made efforts to work with communities and improve the demand for education.

The research team engaged by the Sub sector Study on Equity in Education found that most of the NGOs were conducting bridge courses that facilitate children's entry or re-entry into the formal schooling system, NFEs including vocational training for girls and rehabilitation of child labourers. In rare cases, NGOs (like Samuha in Raichur district) had conducted supplementary classes for working children. Hence, the government looked upon their participation as significant in the implementation of basic education programmes in the state. It was envisaged that their involvement would enlarge the network of agencies and bring a lot of flexibility and innovation into these programmes.

Programmes like Chinnara Angala (the bridge course for dropout children) were implemented with the cooperation of several NGOs like APF, Akshara, Maya, etc. Several NGOs have played a vital role in improving the retention rate apart from attracting out-of-school children back to school. A large number of them are implementing NFE programmes to meet the educational needs of both adults and children. Many of them focus on socially and economically backward areas, marginalised sections of society and on education of girls. A number of NGOs are providing health, nutrition and education to children in urban slums and working children.

NGOs prefer a role different from that of the government. Most of them focus on areas neglected by government. Thus, a majority of NGOs see themselves in a supportive role of creating a facilitative environment for learning. Some of the thrust areas of focus by NGOs are

- NFE to working children who do not attend school
- Literacy.
- Evolving teaching-learning aids
- Teacher training

- Empowerment of community
- Enrolment and reducing dropouts
- Improvement of pedagogic techniques
- Midday meal scheme
- Improvement of school infrastructure

ISKCON, as an NGO, has participated in the hot cooked midday meal programme of the state through "Akshaya Patra" in a big way. This has been documented in the chapter on Elementary Education in this book. Similarly, other private agencies and religious mutts have involved themselves to give nutritious food to children.

The APF has supported the government in school retention programmes, the learning guarantee scheme and implementation of the computer education programmes at the higher primary level. Intel has been training our teachers in using computers for regular classroom teaching and use of internet as a resource both at the high school and teacher training institution level.

Microsoft has set up three computer academies at Bangalore, Dharwar and Gulbarga and has been a major provider of computer training to all our secondary teachers. Infosys Foundation has provided libraries to thousands of our primary schools.

Although several NGOs have significantly contributed to the education department's programmes in a big way, there is need for an external evaluation by an independent agency to assess the extent of impact of their contribution individually and collectively in the education sector.

Profiled below are some of the prominent as well as low profile NGOs who are active in the field of education. The objective is to show the diverse types of activities that these NGOs are conducting, thereby contributing significantly to the cause of education within the community.

Azim Premji Foundation (APF)

Azim Premji Foundation, established with the personal resources of Sri Azim Premji and operational since January 2001, is a not-for-profit organisation, registered under Section 25 of the Companies Act, 1956. The vision of the foundation is to

"Significantly contribute to achieving quality universal education as a foundation for a just, equitable and humane society".

The foundation signed a Memorandum of Understanding with the Governments of Karnataka and Andhra Pradesh in July, 2001 to partner towards UEE in the states of Karnataka and Andhra Pradesh respectively.

The focus of APF is to

1. Promote quality of education through
 - (b) Building accountability among stakeholders through innovative programmes;
 - (c) Demonstrating that it is possible to achieve quality;
 - (d) Effective advocacy.
2. Forge formal partnership with central and state governments since it is essential for integration of models in the larger system.
3. Develop and integrate successful "proof of concept" backed by scientific evaluation, continuous research and documentation.

The involvement of APF in primary school education was, in the beginning, concentrated heavily in the 7 educationally backward districts of NEK. Its initiatives included

- Starting community learning centres in 34 rural schools in operation and piloting use of technology and educational software content;

- Joint review and implementation of competency based student marks cards across the state;
- Remedial teaching programme covering over 36,000 children in NEK in 825 habitations;
- *Vidya Chetana* programme for school-less habitations covering 1,500 children in about 150 habitations;
- High Impact Managers programme for all top level functionaries of the department of school education;
- *Chinnara Angala* bridge course for rapid integration of older out-of-school children;
- Competency based performance measurement of children;
- Improving 'in-school' processes to improve the quality of learning;
- Effecting key policy level changes in the education system.

Balasneha Shale Programme was taken up (by APF) in Sholapur and Surapur blocks of Gulbarga district to enhance the involvement of SDMCs in the School Development Programme in order to impact quality of learning. The programme has 3 points of focus in order to monitor school quality.

1. Emphasis on teacher development where the Head teacher is not ignored but is recognised in a leadership and supportive role.
2. Monitoring the learning levels of enrolled children to find whether they are commensurate with the expected learning levels in the respective classes.
3. School Development Programme in which the specific needs of each school are identified and community support is enlisted through the panchayat raj institutions and the SDMCs so as to involve them in programme planning.

The approach involves a detailed process beginning with the development of a vision for the school leading to the establishment of a mission statement for each school, thinking about the problems of the school as a group, identifying resources, distributing responsibilities, and monitoring the process through measurable performance indicators and establishing a fixed timeframe for these activities.

MAYA (Movement for Alternatives and Youth Awareness)

It is a Karnataka based development and training organisation established in 1989 and working in the areas of child rights and removal of child labour. MAYA's platform for educational reforms is "Prajayatna". It is a community movement aimed at bringing about systemic reforms in structure, processes and action policies relating to basic education.

Prajayatna

Prajayatna or "Citizens' Initiative" (the education reform programme for MAYA) is a statewide citizens' movement for creating systemic change in the educational system. Prajayatna seeks to enable community ownership of elementary education in Karnataka.

It facilitates processes by identifying structures for communities to participate. Prajayatna works with communities, school committees, teachers, elected representatives and officers of the education department. It is currently working in 8 districts of Karnataka and 2 districts of Andhra Pradesh.

Realising the absence of accountability and transparency in the system and local community's lack of control over the educational system, Prajayatna specified its goal as providing quality education for all children through community ownership of the educational process. The strategy is to empower local communities for broad based participation in decision making of educational priorities and their implementation.

The activities of Prajayatna include: campaigns for collection of school information and its dissemination among various groups at different levels; capacity building of village education committees, workshops for SDMCs, workshops for gram panchayat president / vice-president / secretary, education meetings in villages.

Prajayatna works closely with the educational administration and system functionaries at all levels, and shares its observations and experiences with them. It has set up a Resource and Primary education information unit, videographed meetings of village education committees, publishes a quarterly newsletter on the state of education in Karnataka and conducts exhibitions at the state level on its activities in the field.

"Kalikayatna" taken up by Prajayatna in collaboration with the education department, in Bilikere cluster of Hunsur block, Mysore district, is an effort to redefine learning with a focus on 'how children learn' rather than on 'what they learn'. The programme attempts to integrate learning and evaluation as a continuous process. It de-emphasises the importance of the textbook, and the curriculum revolves around the competencies of children. Each child is responsible for constructing his/her knowledge. Participatory learning approaches are followed during classroom interaction; as a result, each child can develop competencies at his/her own pace.

Karuna Trust

Dr Sudarshan is the driving force of the Karuna Trust in Yelandur block of Chamarajanagar district. The Samagra Shikshana Project (Integrated Education Project) being implemented by the Trust in collaboration with India Literacy Project is catering to education of pre-school and school children as well as literacy classes for adults. Objectives are to strengthen Balvikas Samitis at the Anganwadi level and SDMCs at the school level, monitor & strengthen continuing education centers and work towards reducing dropouts.

Vikasana

It is an NGO formed by a group of young and committed social workers in 1989. It is working in Chikkamagalore district, which had a high dropout rate of girl children. A major part of the population of the district comprises poorly paid plantation labour drawn from neighbouring regions. The NGO began its work in one mandal by providing alternatives for the upliftment of poor households through education and socio-economic development. It began NFE for school dropouts and child workers, and functional literacy classes for adults.

The NGO also began a residential school with the assistance of the local community. Vikasana has taken several innovative measures to put children back to school and train uninterested children in vocational skills.

Samuha

It is an NGO working since 1986 to improve the quality of life of vulnerable sections in collaboration with donors such as Action Aid and Plan International. It is working in 51 villages of Deodurga taluk of Raichur district and 22 villages in Koppal district. Started with the aim of integrated rural development, it is focusing on health and education of children as priority areas.

It is running 2 programmes comprising "Bal Kendra"—early childhood centres, and "Suvidya"—an educational resource group which works with government schools for improving the quality of primary education. Suvidya also trains teachers in activity based teaching methodology. Samuha has been able to motivate community participation through contribution of land and manpower for construction of school building.

In Deodurga taluk of Raichur district in NEK, Samuha is involved in conducting pre-school activities by providing buildings, play equipment, etc. It has adopted 28 AWCs and is providing facilities like assisting in wall paintings with colourful depiction of fruits, flowers, shapes, pictorial stories, etc. It has also tried alternative methods such as adopting schools and running supplementary schooling hours for working children. Samuha also provides extra teachers in several villages.

Akshara Foundation

The Akshara Foundation, an NGO, has been able to create and sustain a vast pre-school (*Balwadi*) program in 330 slums in Bangalore city. It is based on the strong belief that exposure to joyful learning during the

age of 3-5 years creates an improved opportunity for children (especially first generation school goers), and encourages them to enrol and stay in a formal school. This is due to the enthusiastic participation of about 1000 volunteers from the community most of whom are young women with some high school and early college education. They have sensitised their communities to the value of pre-school and regular schooling thereafter. About 90% of children in the Balwadi centres end up joining a regular school. At present, over 20,000 children are enrolled in these centres. The Dharwad unit of the Foundation has also launched a similar programme with about 300 children in 18 centres.

"Pratham", Mysore, which is part of the Pratham network to which Akshara Foundation belongs, has its own Balwadi programme, with over 1200 children in 68 centres.

National Institute of Advanced Studies (NIAS)

In collaboration with the state, NIAS had taken up the District Quality Education Project (DQEP) in Chamarajanagar district. DQEP was a major intervention into the quality reform of elementary education at the district level through reforms aimed at system capacity enhancement. The major activities under the programme were

1. School and community communication programme;
2. Integration of block and cluster development programme;
3. Supporting the new DIET of Chamarajanagar.

The main objective of this programme was strengthening academic monitoring through the following strategies:

- Improving conceptualisation, knowledge and skills of BRPs and CRPs in the block based monitoring;
- Conceptualising and providing quality teacher training through creation of resource groups;
- Supporting resource centres at the block and cluster levels.

Suvidya, Bangalore

Suvidya began in 1994 to focus on experiential learning and material-based pedagogy in the subject area of mathematics. Development of TLM in mathematics (primary kit, worksheets and other kits) and training the teachers in its usage is the thrust area of Suvidya. The organisation has been involved in DPEP and is working with BRCs and CRCs. It has launched a distance learning course (with in-built feedback) which reaches out to 200 subscribers (teachers). In motivating the teachers to avail of the facility, it benefited a great deal from its collaboration with the BGVS and RV College of Education. Its outreach activities include training of D Ed students and conducting exhibitions in 3 districts of Bangalore, Mysore and Hassan.

Dhwani, Bangalore

Having begun modestly in 2001 with the aim of developing language skills through casting poems into tunes, Dhwani developed a full-fledged project "Poorna: Creating Teaching Aids to Illustrate Kannada Language and Social Studies Concepts" in April 2005. Dhwani's initial phase called *Aarambha* focused on language and social studies material development and dissemination for I-IV standards.

The Teacher Foundation, Bangalore

The Foundation is a teacher support and professional development organisation founded in 2002. It has 11 full-time professionals and 20 freelance facilitators. It has developed expertise in teacher support and training, consultancy, research and evaluation and TL resources. It is developing material for reading

assessment, as well as a manual for building speaking skills in English. It has the experience of anchoring several projects (some leading to certificates and diplomas) in these areas supported by corporate houses. Its expertise is sought by many schools and is acclaimed for its positive impact on classroom teaching practices.

The Teacher Resource Centres (TRC) established in Bangalore, Mangalore and Mysore districts conduct workshops for teachers and Head teachers and provide school based support. These centres also provide regular teacher development opportunities in 20–30 schools, set up libraries and resource centres in various schools and collaborate with DIETs and the department of education.

A Memorandum of Understanding has been signed with SSA, Karnataka, for the training of 1,025 teachers from Mysore and Mangalore during the period 2006–08.

Deenabandhu, Chamrajanagar

The Deenabandhu Trust, registered in 1993, provides education and rehabilitation to orphans and destitute children. It runs a shelter home and a pre-primary and primary school. The Trust promotes activity based learning and development of teachers. It implemented a 3-year school adoption programme to provide resource support to 30 government schools in science and mathematics teaching.

Deena Seva Sangha, Bangalore

Established in 1930, the Sangha runs several schools including a high school for special education of the mentally retarded children, two dispensaries, a student home for rural SC children, one home for orphans and destitutes, and one home for children deprived of parental care.

Mangala Jyothi Integrated School, Mangalore

The institution was started in 1981 by a Christian organisation to provide education to physically challenged children. It provides general education and vocational education to special children including those with hearing and speech problems. Free transport is provided to all such children.

Mahila Samakhya (M S) deals with education (functional literacy) as one of the initiatives in the context of empowerment of women. It is involved in running a number of AWCs and believes that education has to be a part of a larger effort to increase awareness within the community. It is partly supported by SSA funding.

Our Reach works in school-less habitations of Raichur district by opening schools. **Prerana** is involved in rehabilitation of street children, irrigation and is supporting other smaller NGOs. It also prepared a Report on Educational Status in Raichur district drawing data from HDR. **A Rural Development Committee (ARDC)** looks at a range of development issues (including education) affecting the community. ARDC adopted 741 schools as a part of school improvement programme.

The Human Resource Development Society (HRDS) has set up bridge courses to rehabilitate child labourers under the National Child Labour Project. HRDS is also running hostels and has set up Self Help Groups.

Coastal Action for Rural Development (CARDS) in Udupi works with an overall child-development approach rehabilitating alcoholic fathers so that their families can lead more constructive lives, encouraging sponsorship of children, providing tuitions to children of poor families, adult literacy programmes and SHGs for women.

Spoorthi and **Ashika** are NGOs working with the Koraga community considered to be the most exploited and backward community within the Scheduled Tribe in the state.

There are several other NGOs at the grassroots level working with the community. It would be better if they developed integrated programmes rather than vertical ones, because integration has a greater impact on the community.

Chapter 21

Conclusion

Several studies the world over show that education as an investment brings favourable economic and social returns. A study of the most industrialised countries of the world found that none had achieved significant economic growth without having first attained universal primary education. These studies also point out that education has significant positive returns in the form of higher wages, increased income and productivity.

A World Bank report points out that education raises the expected earning by an estimated 10%–20% or more for each additional year of schooling. Returns for women are even greater. An educated woman can take better care of herself and her family. Research shows that education and poverty are inversely related—the higher a population's education level, the lower is the proportion of poor people in the country.

Thus, governments have come to recognise that education improves economic productivity, enhances social development and improves the quality of life. But there are several other issues which governments have not been able to tackle effectively.

In spite of a huge quantitative expansion of the education system in the country, we still have the problem of high dropouts at all levels. One estimate places that by 2016, there will be 500 million people in the country with less than five years of schooling and another 300 million, who will not have completed high school. In other words, about two thirds of the population will lack the minimum level of education to take advantage of the social changes occurring within the country and worldwide.

Achievements of Karnataka

In this context, Karnataka has done particularly well when compared to several other states in the country. At present it has one of the most widespread networks of elementary and secondary schools in the country. Several programmes including DPEP and SSA have enhanced the reach and quality of elementary education system across the state. Yet, as Human Development Reports point out, Karnataka has remained a median level state in development attainments in comparison with the rest of the country. As already discussed, the state occupies the seventh place in HDI and the fifth place in Education Index. Quality education as a critical sector in human development demands greater focus and attention by the state.

This book has tried to document the progress of education in Karnataka for the past 150 years with special focus on the developments in the education field from 1956 to 2006. It has also tried to interpret these developments from several perspectives. While the state has been able to expand the education system in an unprecedented way, there are still a number of challenges to be met and targets to be achieved in each sub sector of education.

Along with the achievements of the state, some of the important issues in each of the sub sectors of education (discussed in previous chapters) are also summarised below.

Pre School Education (PSE)

PSE not only has a positive influence on the participation of children at the primary level but also significantly impacts their cognitive and emotional development by providing a stimulating environment.

PSE is also a support for UEE as it indirectly influences enrolment and retention of girls in primary schools.

As far as private pre primary schools are concerned, there is no regulatory mechanism to get them registered and bring them under the control of the state. Some important issues in this area are: unbridled and unregulated growth of pre primary schools in the private sector, regular teaching instead of employing play way methods, charging heavy donations in urban areas, lack of adequate training (both pre-service and in-service) facilities for pre primary teachers, and the curriculum of the nursery teacher training course not being revised for the past 40 years.

The PSE component under the ICDS scheme is crucial to ensure holistic development of children belonging to the deprived sections of society. Even though the ICDS covers a majority of children in the rural and urban areas, there are still a large number of villages and habitations which are not catered by AWCs. The condition of AWCs is also far from satisfactory. A majority of them lack buildings and adequate equipment. There is also a lack of effective supervision and monitoring. The AWW has to take care of many programmes along with running of the AWC.

Several committees have recommended setting up of a 'Council for Pre Primary Education' to coordinate the efforts of the various departments and other agencies working in the field. The state also needs to formulate a clearly defined policy on PSE. There is need to integrate PSE more closely with the primary school by forging stronger links among the health and education components. It is also necessary to create continuity in curriculum, combining classrooms and teaching methods which respond to varying abilities and interests of students.

Elementary Education

UEE has been accepted as a national goal since 1950. It has been reinforced by constitutional provisions too. The state has taken several positive and important steps to achieve the goals of UEE. Near 100% access and significant levels of enrolment have been achieved through various programmes. However, there are other issues—lack of adequate infrastructure, problems of single teacher schools, irregular student attendance, heavy dropout of children at the upper primary level, multi grade teaching in a majority of schools, teacher absenteeism, issues of equity and quality that need to be addressed. While the repetition rate is high (8%), the average daily attendance is still 70% in several districts of north and north-east Karnataka. The dropout rate (in I to VIII standards) is still high.

The goals of access, enrolment, retention are in a way sequential in the sense that each goal needs to be significantly achieved before the next can be meaningfully addressed. While Karnataka has dealt satisfactorily with access and enrolment goals, retention and quality of learning are more complex and challenging ones.

Qualitative improvement of the existing education system requires priority—greater investment in educational infrastructure, reduction of the class size, providing computer education, maintaining a pupil teacher ratio of 30:1, qualitative training of teachers, improving the quality of school curriculum and textbooks, and change in pedagogical methods. In order to improve quality of classroom instruction at the elementary level, several strategies have been suggested—regular assessment of children by KSQAO, designing of need-based teacher training programmes, enhancing the education qualification of teachers handling upper primary classes, wider use of multigrade teaching techniques, effective use of TLMs, etc.

Secondary Education

The rapid expansion of elementary education during the last few decades and importance given to secondary education in recent years has created a significant demand for secondary education. The expansion of secondary school network in the state is more impressive compared to that in primary education. A significant feature of the state's secondary education scenario is the presence of a large private sector.

However, there are several areas of concern in this sector.

1. More than 50% of eligible children in the age group of 14–16 are still out of the system.
2. Enrolment of girls is much lower than that of boys. The difference between boys' and girls' enrolment is still a sizeable 7%.
3. Many of the schools lack adequate infrastructure, laboratory and library facilities. Several schools work in the shift system hampering academic work.
4. Apart from access, the most important issue is maintaining quality.
5. At present, salary component as a percentage of total outlay on secondary education is around 90%, implying that very little of the outlay is left for other development purposes.
6. Facilities for regular professional development and in-service training of our teachers are inadequate.

The state needs to take up the programme of universalisation of secondary education on priority. It needs to clearly articulate the physical targets to be achieved in terms of access, enrolment and learning achievement within a timeframe.

The outlay on secondary education needs to be increased in a phased manner. Investment in the sector should also be strategically targeted at critical areas like enhancement of enrolment levels and creation of additional infrastructure.

In habitations with populations below 500 in which independent high schools are not viable, distance education programmes need to be explored so as to cater to girls and (special) children who cannot travel long distances. The state also needs to enhance funding for programmes like quality improvement, professional training of teachers, restructuring of curriculum, and reformation of the examination system.

The department needs to establish a system of accountability which is linked to school performance—establishing a system of quality monitoring that every school maintains minimum expected standards and effectively implements its school improvement plan. Vocational streams have also to be explored and expanded to equip the large number of secondary students with occupation-related knowledge and skills.

Teacher Education

The teacher education sector works largely in isolation. The state has failed to treat the teacher training courses as professional ones. The teacher education institutions are yet to adapt to modern technological methods in classroom teacher training.

The next major issue is the indiscriminate expansion in the number of institutions in recent years. This abnormal growth both at the elementary and secondary levels has led to commercialisation of teacher education and effectively, a decline in quality of teachers.

There is acute shortage of qualified teacher educators in the state. The teacher education faculty in a majority of these training institutions has no experience of the ground realities and innovations taking place in the field. Lack of adequate control over admissions, staff appointments and infrastructure in private unaided institutions has also resulted in declining quality of trained teachers coming out of these institutions. There is also the problem of a large number of unemployed trained teachers in the state.

The admission process by CAC usually gets delayed due to a host of factors and the academic year in most of the B Ed colleges now begins only in October/November which directly affects the academic work of all the colleges as it does not correspond to the regular school calendar. This also adversely affects practice teaching and its quality, as schools are unwilling to spare classes for the student teachers in the second half of the academic year. In fact it has become a ritual as student teachers gain little experience in classroom transaction.

Since the secondary teacher training colleges are under the academic control of the universities, the curriculum for the BEd course is not uniform throughout the state. The curriculum followed by the various universities is highly theoretical and not based on the realities in the field. Some of the universities have

not revised the curriculum for the past several decades. As a result, trainees do not learn anything about new theories and new experiments in the field of education. The current system of evaluation also lacks credibility. There are a large number of first classes and distinctions with virtually no failures.

In-service Teacher Training

The NPE 1986 gave importance to teacher education with special emphasis on quality training of primary teachers. Under a centrally sponsored scheme, DIETs/CTEs/IASE were set up for providing academic leadership and for taking up teacher training in the state. BRCs were set up for planning, management and supervision of in-service training, and CRCs were set up to provide direct academic resource support to primary teachers in the respective clusters. Even though these institutions are involved in in-service training and teacher support activities, there are several serious issues which the government has not been able to tackle over a period of time.

Some of these institutions face problems relating to inadequate infrastructure and equipment, frequent transfer of faculty, posting of unqualified faculty with irrelevant academic experience to train teachers. The evaluation study of DIETs/CTEs has listed a number of anomalies that are faced by these institutions. The programmes are not need based and there is no impact assessment of these programs. The teachers do not have any choice in selecting the programmes. The cascade mode of training followed in most of the training programmes results in transmission loss.

The state is yet to implement its own decision of making the DSERT an autonomous institution on the lines of NCERT and creating a separate cadre for DSERT/CTE/DIET/BRC staff.

Pre-university Education

At present, the responsibility of the pre university department is limited to providing access and quality education. In the light of the proposed universalisation of secondary education, the department needs to take up responsibility not only for access but also for enrolment, reduction of wastage and stagnation along with participation and quality of education. Even though enrolment of girls in PUC over the years has shown a significant increase, gender disparity is still a sizeable 7%.

Since the + 2 stage has been considered to be a part of secondary education, it is necessary that an appropriate pedagogy-based training programme for all pre university teachers is worked out. The II year PUC examination results over the years have been below 50 %, which means considerable wastage and stagnation is taking place at this stage. The department has to initiate suitable systemic and quality improvement measures like curricular reforms, examination reforms and teacher training.

There is need for introducing semester scheme in the P U course as it is sure to tone up the system, bring seriousness among students and teachers with all of two years being properly utilised by the students for learning. It will also help students prepare better for the tougher professional courses ahead.

Since the pre-university sector does not possess an academic body to advice on academic matters (like curriculum revision, introduction of new courses, approval of textbooks, teacher training, etc.), there is an urgent need for a permanent academic body for this sector.

Vocational Education

Vocational education at the + 2 stage envisages diverting of students from the main stream to vocational courses. There is also a need to give priority to it as industries from around the globe are outsourcing services to companies situated in the state. These courses are meant to offer students greater scope for employment by developing requisite skills and reducing pressure on general education.

Lack of adequate funding for vocational courses, inadequacy of apprenticeship training to students and lack of proper counselling and guidance are some of the factors affecting the sector. There is need for placement services and assistance for self employment. There is a considerable gap between the present vocational courses and the progress of technology.

In order to improve the productivity levels of children coming out of the secondary education system, the state should endeavour to divert at least 25% of the children entering the +2 stage to vocational streams by expanding infrastructure, enhancing funding and making courses attractive and need based. There is also a need to introduce courses which cater to the services sector.

The XI Five Year Plan document has given priority to skill development and visualises a paradigm shift in vocational education, the training system and in other forms of skill development. It proposes to launch a "National Skill Development Mission" and a "Virtual Skill Development Resource Network". These initiatives have to be efficiently used by the state as the record of the state in the development of vocational education is far from satisfactory.

Higher and Technical Education

Higher education is crucial for economic development of the country as it builds the much needed capacities within the education system and provides a qualified and trained workforce for the employment sector.

But, in spite of the phenomenal growth in institutions and enrolment, only 9% of the youth population (in the age group 17–24) is enrolled in higher and technical education institutions. As we have already seen, this proportion is far too low compared to other developed and developing countries. The XI Plan proposes to increase this ratio to 15% by the end of the Plan and to 21% by the end of the XII Plan. The state has to plan to meet these targets through additional funding and development of additional infrastructure.

Another issue is maintenance of quality in higher education institutions which face several problems like poor infrastructure, poor quality of students, lack of qualified faculty, non availability of faculty in certain streams, quality concerns in curriculum, etc. The interface between institutions of excellence and higher education institutions is also minimal. Many newly started government and private self financing colleges lack proper infrastructure and adequate number of qualified teaching staff. A number of colleges share infrastructure with other institutions.

A large number of students passing the PUC examination in science streams opt for professional courses in engineering and medicine. This has led to a steep decline in enrolment of students to science courses at the degree and postgraduate levels which, in turn, has impacted the availability of quality manpower for basic science programmes, science oriented industries, laboratories, scientific research institutions and ultimately, supply of science teachers to secondary and higher education sectors.

Some of the important issues that are impacting the higher education sector are lack of relevance of courses, poor quality of teaching, low percentage of students in postgraduate courses and research, imbalances in enrolment between various streams and poor learning outcomes. The state has to initiate action to improve quality in higher education in coordination with all concerned agencies.

Technical Education

There has been an unprecedented growth in respect of capacity expansion in engineering education in recent years. But the issues are lack of adequate infrastructure, unutilised capacity in several disciplines, heavy dropout even at this level, low pass percentages, lack of high degree of institutional autonomy, shortage of teaching faculty, poor quality of the existing faculty, lack of industry experience of the faculty, lack of opportunities for faculty training and non existence of 'R and D' activities. All concerned players—the VTU, the state government, the UGC and the AICTE—have to make coordinated efforts to improve quality in this sector.

The XI Plan proposes to establish a number of central universities, IITs, IIMs and Indian Institutes of Science Education and Research. After spending for establishing these institutions, very little of the central outlay on higher education will be left for improving the plight of general institutions. This is where the state has to step in and remedy the situation.

Adult Education

While Karnataka's literacy rate has increased by 10 percentage points between 1991 and 2001, it is only marginally higher than the national literacy rate. One third of the state's population continues to be illiterate. The state is far behind its neighbouring states in literacy. Lower female literacy continues to be a cause for concern.

Even though several programmes have been implemented in the past to improve literacy levels, a greater focus seems to be needed to increase the pace of literacy campaigns. The state has to travel a long way and cross many milestones, before the distant dream of achieving total literacy is realised.

Information Technology

Even though the state is in the vanguard of information technology, it has not made significant efforts to build ICT capacities in students at all levels. Only at the secondary level Mahiti Sindhu and other computer education projects have been able to make some impact in this direction. Even here the state has a long way to go in providing access to computer education in all schools.

Attempts to provide computer education to students studying at the Pre-university and degree levels remain largely inadequate. The state is yet to frame a comprehensive 'Computer Education Policy Framework' involving educational institutions at all levels.

Issues of Equity

The state is constantly striving towards achieving equality in providing educational opportunities, cutting across social, economic and geographic barriers. Poor quality of schooling is one of the main reasons contributing to the inequities in education. As we have already seen, there is a significant gap in the performance of students between and within various categories—government and private schools; boys and girls; rural and urban children; general and SC/ST students.

At the secondary level, the gender disparity percentage in enrolment is 11.30 and at the pre-university level it is 7.25. The results of various examinations show that girls consistently perform better than boys in all the examinations, even though girls lag behind boys in enrolment. Policy interventions have helped more girls enter the education system. Those girls who continue education perform better than boys. Even among different social groups, the performance of girls is better than that of boys.

There are disparities in access, distribution of educational facilities and quality of education within and across the districts. Hence, additional focus on local specific programmes and higher budgetary allocations are needed to bring these areas at par with the rest of the state.

The state has tried area specific and population specific planning to ensure equal attention to educationally backward pockets and groups through shift in emphasis from mere access and enrolment to retention and quality education. Several schemes and incentives have been formulated in order to tackle these equity issues. There is also a reservation of a certain percentage of seats for these groups both in admission to educational institutions and employment in government and aided institutions.

Role of Private Sector

A significant feature of Karnataka's education system is the presence of a large private sector especially at the secondary stage and beyond. This is mainly due to the desire of many social groups to gain access to education, especially higher and professional education.

However, the cost of education in private institutions is relatively high. Except in the case of a few reputed ones, most of the private institutions treat education as a commercial activity. The important issues in the private sector are charging of heavy donations, payment of lower salaries to the staff, provision of poor infrastructure, following discriminatory practices, harassment of staff by managements, disregarding of rules and regulations, etc. The state has not been able to curb some of the unethical practices in these institutions. There is need for these institutions to ensure equity.

Financing Education

The education sector accounts for the highest share of the state government's revenue and capital expenditure. While the Kothari Commission prescribed a national level norm for educational spending at 6% of the GDP, Karnataka is spending about 6% of the state's GSDP on the entire social services sector put together including 3% on education which is considerably lower than the country average of 3.8% of GDP. The state will have to increase spending on education in order to achieve targets under universalisation of both elementary and secondary education.

Salary component accounts for nearly 90% of the total outlay in different sectors of education. In order to achieve quality and improve learning outcomes, greater emphasis needs to be placed on non salary components. In the context of improving educational performance, a well defined financing policy which includes changing the pattern of devolution and sanctioning resources to the needy areas/sectors is necessary.

The XI Plan has indicated the following as future thrust areas in the education sector: quality upgradation in primary education, expansion of secondary education, upgradation of higher education including technical education and ICT throughout the education system. While the state will get substantial funding from the centre for these areas, it is imperative that it increase funding for all other priority sectors in education to improve its position in human development and education indices.

Community Participation

Community participation at the school level is a key factor in infrastructure creation and supporting enrolment and attendance of both teachers and students. Though the concept of community participation in education has been recognised, it has not yet taken off at a desirable level.

In order to inspire communities to be a part of the governance of schools, the government established the SDMCs. There is need to further empower and strengthen them through certain checks and balances. There is need for periodical training of SDMC members and impress them about their duties and responsibilities towards the school. An active SDMC has a positive impact on enrolment, attendance, retention and smooth functioning of several programmes like the midday meal program etc.

The participation of NGOs and voluntary agencies has been given an important place by the government in the implementation of basic education programmes in the state. Several NGOs are involved in various programmes and have enhanced the effectiveness of various government initiatives.

Conclusion

It is seen that the state has made considerable progress in the field of education. This book has endeavoured to capture this progress over the past 150 years as well as document the various initiatives of the government and private sector from different perspectives. It is hoped that this documentation will be of help to all those who are interested in the field of education.

Annexure I

Premier Institutions of Karnataka

Karnataka is home to a number of premier institutions of national and international repute.

During the twentieth century, several centres of excellence and research institutions in the fields of defence, education, health, science and technology came up in the state. These institutions have made the state proud through significant contributions to the national fabric in their respective fields.

The establishment and growth of these institutions has in a way reflected and influenced the educational, social and cultural ethos of the people of the state. A number of professional colleges which have come up in the state during the past several decades have provided a ready pool of technically qualified and skilled manpower to these centres of higher learning and research.

These institutions were a logical sequel to the starting of many heavy industries which was a part of the country's drive towards self reliance. Besides these premier institutions in the civilian sector, a number of defence research and production facilities have come up thanks to the secure geographical location of the state. The Indian Air Force's Institute of Aviation Medicine (which monitors the health of India's military and commercial pilots), the Aircraft Systems and Testing Establishment (which trains pilots and undertakes experimental and production testing of various aircraft), the Software Development Institute (which develops software for defence applications), 26 Equipment Depot (which manages the inventory of aircraft spares and other items for the IAF), the Aeronautical Development Agency (which develops the light combat aircraft Tejas) and the Defence Institute of Quality Assurance (which trains personnel in quality management) have made Bangalore their home.

Several key defence units under the umbrella of Defence Research Development Organisation (DRDO) are also located in Bangalore, the most notable being the Aeronautical Development Agency (ADA), the Electronics and Radar Development Establishment (LRDE), the Centre for Artificial Intelligence and Robotics, the Centre for Airborne Systems, the Defence Bio-Engineering and Electrical Laboratory, the Centre for Military Airworthiness and Certification, the Defence Avionics Research Establishment and the Gas Turbine Research Establishment (GTRE).

An attempt has been made here to give a pen sketch of some of the premier institutions in the civilian sector. The material presented here has been collected from the web sites of these institutions as well as other sources.

Indian Institute of Science (IISc), Bangalore

Jamsetji Nusserwanji Tata (1839-1904) was convinced that the future progress of the country depended crucially on research in science and engineering. After consulting several authorities in the country, he constituted a 'Provisional Committee' to prepare the required scheme for setting up a premier institute for the promotion of scientific studies. Subsequently, upon the request of the then Secretary of State for India, the Royal Society of London asked for the assistance of Sir William Ramsay, Nobel Laureate, who made a quick tour of the country and reported that Bangalore was the most suitable place.

On the initiative of the Dewan, Sir K Sheshadri Iyer, the Government of Shri Krishnaraja Wodeyar IV, the Maharaja of Mysore offered 372 acres of land, free of cost, and promised other necessary facilities.

Thus, the original scheme of Jamsetji Tata became a tripartite venture with the association of the GOI and the Government of the then Maharaja of Mysore. (Subsequently, GOK gifted lands during the Golden Jubilee and Platinum Jubilee celebrations of the Institute making the current land holding of the Institute 443 acres.)

Early in 1911, the Maharaja of Mysore laid the foundation stone of the Institute and on 24 July, the first batch of students was admitted in the Departments of General and Applied Chemistry and Electrotechnology. With the establishment of the UGC in 1956, the Institute came under its purview as a deemed university.

The Institute has been able to make many significant contributions primarily because of its unique character. It is focused on research in frontier and technologically important areas. It is also the first institute in the country to introduce innovative integrated Ph D programmes in Biological, Chemical and Physical Sciences for science graduates.

During its one hundred years of existence, many famous scientists have left its portals to direct science and technology initiatives in the country, to create and nurture other laboratories and scientific institutions, and to establish key industries. C V Raman, H J Bhabha, Vikram S Sarabhai, J C Ghosh, M S Thacker, S Bhagavantam, S Dhawan, C N R Rao and scores of others who have played a key role in the scientific and technological progress of the country have been closely associated with the Institute.

The Council of the Institute confers honorary fellowship on eminent scholars and scientists and on those who have made noteworthy and lasting contributions to the cause of science and industry in India. Among the 24 recipients of this distinction are Pandit Jawaharlal Nehru, M Vishveswaraya, C V Raman, J R D Tata, Vikram S Sarabhai and C N R Rao.

Besides formal education and research, the institute has been playing an active part in offering short-term courses to scientists and technologists in service. The Continuing Education Programme covers a wide range of topics and over 1500 working scientists and engineers take up these courses every year. In keeping with its aims and objects, the Institute has organised a "Centre for Scientific and Industrial Consultancy" through which the know-how generated in the Institute percolates to industries via industry-sponsored projects.

The Institute nurtures scientific thinking in school students also. In collaboration with the institute, DSERT organises "Meet the Scientist" programmes in schools every year in different parts of the state. Several eminent professors of the Institute are on the panel of government textbook committees. The Computer Science Department of the Institute was mainly responsible for the success of the "Mahiti Sindhu" project.

In all these endeavours, the Institute strives to contribute to the scientific, academic and technological goals of our country, keeping in mind its noble tradition and the need for maintaining high quality. The Jawaharlal Nehru Centre for Advanced Scientific Research with organic links with the Institute has been functioning on the campus as well as in Jakkur.

Raman Research Institute (RRI), Bangalore

The Raman Research Institute was founded by the Nobel laureate Sir C V Raman in 1948 with funds from private sources. The main activity of the Institute was basic research in selected areas of physics which were of particular interest to Prof. Raman. The institute owes its origin to the Government of Mysore gifting a plot of land to the Indian Academy of Sciences in Bangalore in December 1934. In 1956, Prof. Raman made an irrevocable gift to the Indian Academy of Sciences of various movable and immovable properties for the use and the benefit of the Raman Research Institute.

After Prof. Raman's death in November 1970, the Indian Academy of Sciences created a public charitable educational trust in July 1971 by the name Raman Research Institute Trust (RRI Trust). The Academy transferred to the trust the lands, buildings, deposits, securities, bank deposits, monies, laboratories, instruments and other movable and immovable properties held by it on behalf of RRI. One of the main objectives of the RRI Trust is to maintain, conduct and sustain the Raman Research Institute.

The Institute was reorganised in 1972 and it started receiving funds from the Department of Science and Technology of the GOI. It is administered by a governing council. Currently, the main areas of research are Astronomy and Astrophysics, Soft Condensed Matter, Theoretical Physics and Light and Matter Physics.

Central Food Technological Research Institute (CFTRI), Mysore

CFTRI, as a part of CSIR chain of national laboratories, was formally inaugurated on 21st October 1950 by C Rajagopalachari, the then Home Minister of the GOI. Dr V Subramanian was the first director of the Institute. The Institute is located in the beautiful and stately Cheluvamba Mansion, a sprawling estate in Mysore. The Institute and Mysore city have both grown together for the past 5 decades and have developed an emotional bond between them.

The Bengal famine of 1943 and the ravages of the Second World War had convinced the GOI that the key to the food security of the country lies in the right interventions of science and technology to conserve, preserve, process, distribute and enhance the nutritional status of the available food resources.

The outcome was the development of many breakthrough technologies that created waves in the Indian food scenario and made the world sit up and take notice. CFTRI's formulation of an easily digestible baby food out of buffalo's milk catapulted the Indian dairy industry to new heights. India was able to break the monopoly of multinationals and produce all the required baby food indigenously. (Amul - baby food based on CFTRI technology, is a household name in India for the past several decades.)

Novel protein foods, 'Energy food', Indian multipurpose foods, 'Bal Ahar', 'Miltone', have been extensively used in developing nations across the world for disaster relief, nutrition interventions and social welfare projects. The Institute has produced many safer methods for insect control, safe colourants and additives. Over the decades it produced scores of technology solutions that afforded a powerful thrust to development of indigenous food and agro based industries, thus playing a prominent role in the socio economic transformation of the nation.

The Karnataka state government introduced "Energy Food" programme in schools in 1980-81 on the basis of a nutrition formula developed by this Institute.

National Institute of Mental Health and Neuro Sciences (NIMHANS), Bangalore

Bangalore is home to NIMHANS. Over the years, it has developed into a premier research and training centre apart from being a leading hospital in the field of mental health and neuro sciences. In its 150 odd years of existence, the autonomous institution's name has undergone several changes from being a 'lunatic asylum' or 'mental hospital' to an institution reflecting the changes in society's perception about mental health and people with psychiatric and related problems.

The NIMHANS, as a joint venture of the GOI and GOK, was established as an autonomous institution in 1974. Based on the work done since its inception, the UGC declared this as a deemed university in 1994. The three important activities of the Institute are directed towards manpower development, patient care and research.

NIMHANS is the largest postgraduate training centre in the country, offering courses in Psychiatry, Neurology, Neurosurgery, Clinical Psychology, Psychiatric Social Work, Neurophysiology, Biophysics and Nursing. Every year, 200 postgraduates pursue various courses in the Institute. In addition, the Institute offers PhD degree in mental health.

The Institute also takes up research projects funded by ICMR, Department of Bio-Technology, Ministry of Welfare and WHO as well as projects in collaboration with several national and international agencies.

In collaboration with DSERT, it has taken up a "Life Skills Education programme" for students in secondary schools in selected districts of the state. It developed teachers' handbooks and also trained Master Resource Persons and school teachers. It also evaluates the implementation of the programme at the school level.

Indian Institute of Management, (IIMB) Bangalore

IIM, Bangalore, one of India's premier management institutes, was established in 1973 as an autonomous institution on a one hundred acre campus in south Bangalore. It has opened a campus in Singapore recently.

Over the years, it has developed as a centre excellence in management focusing on postgraduate and doctoral level teaching, executive programs for senior and middle level management, and research and consulting. Admission is through a common entrance test in which nearly 2 lakh candidates compete. The International Masters Programme in Practising Management is offered by IIMB in collaboration with some of the best institutions and universities in the world.

The institute is globally recognised and considered one of the most prestigious business schools in Asia. Several prestigious magazines have rated IIMB among the top business schools in the world. Mr. Mukesh Ambani, the current Chairman and Managing Director of Reliance Industries is the Chairman of the Board of Governors of the Institute.

National Aerospace Laboratory, (NAL) Bangalore

National Aerospace Laboratories set up (first in Delhi in 1959 and shifted to Bangalore in 1960; and formerly called National Aeronautics) by the Council of Scientific and Industrial Research (CSIR) is the country's pre-eminent civil R&D establishment in aeronautics and allied disciplines.

The research and study areas of the Institute include aerospace electronics and systems, computational and theoretical dynamics, experimental aerodynamics, flight mechanics and control, flight experiments, material science, propulsion, structural sciences, structural integrity and wind energy. It has two campuses in Bangalore that are equipped with sophisticated and state-of-the-art facilities.

NAL has made significant contributions in all the aerospace programmes of the country. It has spearheaded India's efforts to design and develop small and medium sized aircraft for the civil sector. It has also made significant contributions in the development of India's Light Combat Aircraft (LCA) and Advanced Light Helicopter (ALH) and in several projects of Hindustan Aeronautics Limited (HAL). NAL conducts testing and is involved in subsystem development for aerospace industries in India and abroad.

Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bangalore

JNCASR was started as a centre of excellence and multidisciplinary research institute in 1989 at Jakkur, Bangalore, by the eminent scientist Dr CNR Rao. The Institute undertakes research in chemistry and advanced materials, engineering mechanics, molecular biology and genetics, fluid mechanics and atmospheric sciences, evolutionary biology, theoretical sciences, educational technology and geodynamics. It is equipped with state-of-the-art experimental, computational and infrastructural facilities.

Institute for Social and Economic Change, (ISEC) Bangalore

As an autonomous research body, the Institute had its genesis in the vision of Dr V K R V Rao, who wanted to set up an institute of international standards and excellence in interdisciplinary research and training, and coordinate development in all the social science sectors. It was established in Bangalore in 1972 as one of the first and the largest institution under Indian Council of Social Science Research (ICSSR). It has a beautiful campus in Nargarbavi abutting the Bangalore University campus.

The main objectives of the Institute are

1. To conduct interdisciplinary research in analytical and applied areas of social sciences encompassing diverse aspects of development;
2. To assist central and state governments through systematic evaluation studies;
3. To establish linkages with other institutions engaged in social science research through collaborative research programmes and seminars;
4. To conduct refresher programmes for teachers and public functionaries.

The Institute has a large multidisciplinary faculty of 9 professors, 13 associate professors, 23 assistant professors working on various socio-economic themes of national and international importance. It has been recognised as a centre for doctoral research by many universities in the country. Fellowships are funded by ISEC, ICSSR, Ford Foundation and the RBI. It has produced more than 100 doctorates in various disciplines since its inception.

The Institute has an education unit which offers Ph D in Education for a limited number of candidates. It also takes up sponsored research projects in education. It has also taken up monitoring and evaluation of several education programmes. Over the years, the Institute has trained several batches of officers of the Karnataka Education Department in educational planning and management.

Indian Space Research Organisation (ISRO), Bangalore

ISRO came to be founded in Bangalore in 1972 with the objective of harnessing the potential of space technology for national development, especially in areas of telecommunication, television, broadcast, meteorology including disaster warning and resources survey management.

The Indian space programme is driven by the vision of Dr Vikram Sarabhai, who is considered to be the father of the program, ISRO, with headquarters at Bangalore, executes the Indian Space Programme which includes the development of satellites, launch vehicles, sounding rockets and associated ground systems. Besides several facilities in Bangalore, ISRO has a Master Control Facility at Hassan. The development and deployment of communication satellites by ISRO has made the country completely self reliant and has placed it in an exclusive space club.

Some of the operational space systems include Indian National Satellite (INSAT), for telecommunication, television broadcasting, meteorology and disaster warning; Indian Remote Sensing Satellite (IRS) for remote sensing, resource monitoring and management, Polar Satellite Launch Vehicle (PSLV) used for launching IRS satellites, Geosynchronous Satellite Launch Vehicle (GSLV) for launching INSAT class of satellites.

Recently, ISRO launched the "Edusat" satellite which is being used for broadcast of video lessons to schools and colleges, teleconferencing and videoconferencing of education department's programmes throughout the country, telemedicine, etc. Details of the "Edusat school education programme" in Karnataka can be found in the Annexure.

Indian Institute of Astrophysics, Bangalore

Indian Institute of Astrophysics is a premier national institute devoted to the study of and research in astronomy, astrophysics and related subjects. It had its origins in 1787 when it was started as a small private observatory by an official to provide navigational assistance to ships of East India Company and help determine longitudes by observation of eclipses. This observatory was taken over by the East India Company in 1792 and shifted to a complex in Nugalambakkam in Madras. It was the first modern observatory outside Europe.

Observatories then came up first in Kodaikanal and later at Kavalur. The Optics, Electronics and Data Analysis Centre and Headquarters of the Institute is located at Bangalore. In 1971 it was converted into an autonomous research institute wholly financed by the Department of Science and Technology, GOI. The Institute also has facilities at Hoskote and Gowribidanur in Karnataka.

All India Institute of Speech and Hearing (AIISH), Mysore

All India Institute of Speech and Hearing, Mysore, the first of its kind in the whole of South-East Asia, came into being on August 9, 1965 under the aegis of the Union Ministry of Health and Family Welfare. It was established to meet the long felt need to serve the speech and hearing impaired in India.

The Institute conducts graduate, postgraduate and doctoral courses as well as training programmes for medical, paramedical and non medical personnel in speech and hearing. It also promotes research in speech and hearing, and diseases of the ear, nose and throat.

Six departments in the Institute—Audiology, Clinical Psychology, Electronics, Otorhinolaryngology, Speech Pathology and Speech Sciences—are actively involved in the training programmes.

In collaboration with the FPAI, clinical services are extended for the rural population. Hearing, screening and identification of speech-language problems are regularly conducted at paediatric units of hospitals and schools. The staff along with the students visit various rural and urban areas to create public awareness regarding early identification of speech and hearing problems. Public education pamphlets are also distributed.

Central Institute of Indian Languages (CIIL), Mysore

The Institute was set up at Mysore by the GOI in July 1969 to coordinate the development of Indian languages and to bring out the essential unity of Indian languages through scientific studies. It has also helped to evolve and implement India's language policy. It aims at promoting interdisciplinary research that contributes to mutual enrichment of languages, which facilitates emotional integration of the people of the country. It has seven regional centres spread across India which are engaged in research and training in Indian languages other than English and Hindi.

It conducts both short term and long term training programmes in 13 major Indian languages following modern linguistic methods and using the most sophisticated equipment like language laboratory, CCTV, videos and computers. Contact-cum-correspondence courses are conducted in various languages too.

The Institute advises central and state governments in matters of language, contributes to development of all Indian languages by means of corpus and content, protects and documents, minority and tribal languages and promotes linguistic harmony by teaching 15 Indian languages to non native learners.

National Law School of India University, (NLSIU) Bangalore

The concept of a national institution to act as a pace setter and testing ground for bold experiments in legal education was being felt by the legal fraternity in the country for a long time. The Bar Council of India concurred with it in the context of its statutory responsibility in maintaining standards in professional legal education under the Advocates Act 1961.

NLSUI was established as a comprehensive residential law university (under the Karnataka Act 22 of 1986) at Bangalore on 29 August 1987 as a joint collaborative effort of the Karnataka Government, the Bangalore University and the Bar Council of India. It is recognised as a deemed University by the UGC. With the Chief Justice of India as a Visitor of the NLSIU and the Chairman of the Bar Council of India as the Chairman of the General Council of this University, NLSIU has acquired a certain stature and prestige unparalleled in the history of legal education in the country.

The University has its own campus in Jnana Bharati (Bangalore University). Its administration is done through a General Council, an Executive Council, an Academic Council and a Research Board. A large number of retired judges of the Supreme Court and the High Courts and senior advocates render assistance in its teaching and research programmes. It has been consistently ranked as the top law institution in India for the past several years by India Today (ORG – MARG survey). It has been producing Rhodes scholars on a regular basis and has a tie-up with Warwick University of the United Kingdom.

The main objectives of the University are to

- Enhance legal knowledge and understanding and use it for the country's development;
- Conduct research about the different legal levels and use it for development of the community;
- Act as a bridge between judges and the advocates.

The University conducts a BA, LL B (Hons.) 5-year integrated course for 10 +2 students and 2-year LL M course for degree students. Entrance is through an all India entrance examination. The institution runs M Phil, and LL D courses and conducts training programmes to working advocates in collaboration with the Bar Council apart from offering courses for teachers of law colleges.

National Institute of Advanced Studies (NIAS), Bangalore

This institution was conceived and established in 1988 by the vision and initiative of the late J R D Tata, who sought to create an institution which would conduct advanced research in multidisciplinary areas (in the fields of science and humanities) and also serve as a forum that would bring together administrators and managers from industry and government, leaders in public affairs, eminent individuals from different walks of life and the academic community in natural and social sciences.

The Institution is located in the campus of IISC, Bangalore. Besides advanced research, it conducts workshops on developmental policies of national importance. In collaboration with the state government the Institution has taken up quality initiatives in the field of primary education in Chamaraajanagar district in Karnataka.

Regional Institute of English (South India), Bangalore

The institution was founded in 1963 with the broad objective of augmenting standards of English language teaching at the school level in the four southern states of India. Initially, it received financial and academic support from the British Council. Currently, the Institute's maintenance cost is shared by the four southern states (Karnataka, Tamil Nadu, Andhra Pradesh and Kerala) and a part of it is met by GOI.

Over the past four decades, the Institute has undertaken several programmes such as

- Conduct of long term and short term in-service training programmes training thousands of teachers;
- Active participation in the curriculum design and material production work in collaboration with the respective state governments;
- Research by means of conducting status studies, surveys, execution of projects like the listening project and the Bangalore project;
- Publication and dissemination of materials relevant to English language learning;
- Design and execution of programmes specific to different target groups, exploring the mass media channel.

In collaboration with the state governments, the institute established ELTCs in every member state and monitored their academic work. But, with the introduction of the NPE, the district ELTCs were brought under the umbrella of DIETs and CTEs depending upon their geographical location.

RIESI has been conducting in-service teacher training programs both for elementary and secondary teacher educators on a regular basis as well as several programmes for the other functionaries of the education department on an ad hoc basis. The programmes implemented in collaboration with Karnataka state have described in Chapter X.

In terms of infrastructural facilities, the Institute has been granted 11.11 acres of land on lease from the Bangalore University. It has put up a 29,500 sq.ft. building, housing the administration wing, dormitories, the training block, library and the language laboratory. The library is one of the best English language libraries in India, wholly computerised, with a total of 29,000 books related to English language teaching. The language laboratory has 20 learning booths with audio cassettes to facilitate learning spoken English. A computer lab with multimedia facility is also available. IT training is integrated into the English language teachers training programmes.

Regional Institute of Education (RIE), Mysore

The Regional Institute of Education (formerly called Regional College of Education), Mysore was founded on 1 August 1963. It fulfilled the much felt need of a central teacher training institution in the region with highly qualified and experienced staff, well equipped library, sophisticated equipment, AV teaching aids, and an attached "Demonstration Multipurpose High School" for practice teaching by student teachers. The Institute is located on a sprawling 120 acre campus next to the Mysore University Post Graduate Campus, Manasa Gangothri.

It is one of 5 similar institutes established by NCERT, New Delhi, the others being located at Ajmer, Bhopal, Bhuvaneshwar and Shillong. The pre-service training programmes of RIE, Mysore, are attached to Mysore University and cater to the needs of the students of Andhra Pradesh, Tamil Nadu, Kerala, Karnataka, Pondichery and Lakshadweep.

The major academic role of RIE, Mysore is to design and implement innovative pre service and in-service teacher training programmes. It formerly used to offer 4 year B A Ed and B Sc Ed integrated courses at the degree level and M A Ed and M Sc Ed courses at the postgraduate level. After conversion to Regional Institute of Education, it has restricted the courses only to science subjects—B Sc Ed and a one year (two semester) M Ed course in elementary education. The Institute has also experimented with a 2 year B Ed course apart from running a 2 year vacation B Ed course spread over two summer vacations. This course catered to a large number of graduate teachers working in primary and nursery schools.

The Institute has been functioning as a Regional Institute of Education from 1995, following a major shift in its focus from pre-service education to in-service education. It also offers academic expertise to state level institutions like the DSERT, DIET, CTE, and other teacher education institutions as and when required.

The institute helps in monitoring and evaluation of central schemes like Science Education, Non formal Education, Vocational Education, Educational Technology, Special Orientation Program for Teachers (SOPT), DPEP, Environmental Education and Population Education. It promotes research in all areas of school education and teacher education.

Ramakrishna Institute of Moral and Spiritual Education, Mysore

This is a premier institution run by the well-known Sri Ramakrishna Ashrama, Mysore. It was established in 1974 and is affiliated to the Mysore University. It is the only full-fledged residential secondary teacher training institution where Moral and Spiritual Education is taught as a separate content cum methodology paper (besides content cum methodology in two other subjects) as a part of the B Ed course. In reflection of its all India character, the Institute admits 80% of students from outside Karnataka and 20% of students from within Karnataka.

The Institute conducts long term and short term character development camps and personality development courses for students, spiritual retreats for the general public, value education courses for teachers, and work ethics camps for industrial workers. Some of these courses are also sponsored by MHRD. The Institute has developed a multi media package on personality development which is used by several educational institutions in the country in their training programmes.

National Dairy Research Institute, Bangalore

National Dairy Research Institute, established at Bangalore in 1923 (as Imperial Institute of Animal Husbandry and Dairying) and now under the Indian Council of Agricultural Research, is a premier institute that provides R & D services for dairy development programmes of the nation. Over the years, it has gained prominence as a front ranking research organisation on a global basis. The Institute catalyses close interaction among scientists, students, farmers and the dairy industry for coordinating dairy development process in a harmonious manner. In 1955, the headquarters was shifted to Karnal and the Bangalore centre was made the southern regional centre. In 1989, it received the status of a deemed university.

The Institute offers various programmes at graduate, postgraduate and doctorate levels in order to develop trained manpower in dairying. It provides technical advice and guidance to various state and central government organisations and private enterprises.

National Tuberculosis Institute, Bangalore

National Tuberculosis Institute was established in Bangalore in 1960 to tackle TB which was then considered a major health problem in the country. The Institute conducts research in epidemiology,

bacteriology, sociology and TB control methods. It offers job oriented in-service programs and monitors the national TB program all over the country. It has collaborative programmes with WHO and UNICEF and publishes literature on TB and HIV.

Central Power Research Institute, (CPRI) Bangalore

The Institute, established in 1960 as a centre for applied research in electrical power engineering, is a premier R & D centre in the country for the generation, transmission and distribution companies in the power sector. In its core areas of research and testing, the CPRI has built up both expertise and infrastructure of international standards. It serves as an independent authority for the testing and certification of power equipment and is ranked among the top ten in the world in terms of field testing of high voltage and high power equipment.

The CPRI R & D programmes include technical support, product development, upgradation of testing technologies and research collaboration with utilities. It conducts research in specific problems related to the Indian electrical industry—choking of hydro turbines, improving efficiency of Indian coal, improving performance of pollution control equipment, conducting real time power system analysis, etc.

Indian Institute of Horticultural Research, Bangalore

This institute is a premier institute devoted entirely to enhancing horticultural productivity in the country. During the past four decades, it has pioneered several mega projects in enhancing fruit, flower and vegetable production in the country. As a result, the country has emerged a major producer of horticultural produce in the world. India is now a leading producer of world's finest quality grapes with highest yield per unit area. This has seen a tremendous growth of the wine industry in the state.

Manipal Academy of Higher Education (MAHE), Manipal.

Manipal Academy of Higher Education comprises a large number of institutions for higher education, most of which are located in the coastal districts of Karnataka—Kasturba Medical Colleges and Colleges of Dental Surgery located at Manipal and Mangalore, College of Nursing, Manipal, Manipal Group of Hospitals, Institute of Management, etc. Some institutions are also located in Nepal, Sikkim and Bangalore. The major focus is on medical education, with a large number of medical institutions supported by some outstanding multi and super speciality hospitals. Technical and management education have also received significant attention.

The Academy achieved the status of a deemed university in 1993. This is the first multi faculty deemed university from the private sector in the country. The township of Manipal consists of 2 universities, 25 professional colleges and numerous other educational institutions.

National Institute of Technology Karnataka (NITK), Suratkal

The Institute was formerly known as Karnataka Regional Engineering College, Suratkal.

It was founded in 1960 as a joint venture between the state and central governments. It is established in a beautiful 295 acre campus at Suratkal near Mangalore. It runs several undergraduate and postgraduate courses in engineering and allied disciplines.

Admissions are based on All India Engineering Entrance Examination. 50% of the seats are reserved for students from Karnataka and the remaining 50% are distributed over other NITs on reciprocal basis. It was ranked the No. 1 engineering institution in the country in 2002 and eighth best in the country in 2006 by India Today. It was renamed as National Institute of Technology in 2002 and became an autonomous university.

Centre for Environmental Education (CEE), Bangalore

The Centre for Environmental Education was established in 1984 by the Ministry of Environment and Forests, GOI. The programmes undertaken by CEE are

1. Development and dissemination of quality environmental education materials, activity manuals, teachers' handbooks, posters, etc.;
2. Organising in-service teacher training programmes;
3. Networking with governmental and non governmental organisations to promote environmental education in schools.

CEE, Bangalore Centre has collaborated with DSERT in bringing out EVS textbooks, development of training materials for teachers, orientation of DIET and other faculty, and assisting in organisation of training programmes.

Karnataka Historical Research Society, Dharwar

The Society (one of the premier research institutions in South India) was established in 1914 and has been contributing to the study of historical, cultural, artistic and literary traditions of the region since its inception. It was originally set up for educating the people about the heritage of the state and to instil a sense of patriotism among the masses.

The Society periodically conducts seminars and workshops on historical, cultural and literary aspects of the region. It has published over 50 books in Kannada, English and Sanskrit. It also brings out a biannual journal consisting of research articles by eminent personalities.

Oriental Research Institute, Mysore

This is a century-old prestigious institute established in Mysore. It has published several works of high standard. A three-tier system is used to preserve very rare, ancient and valuable manuscripts. The micro film section has sophisticated instruments. The annual research journal "The Mysore Orientalist" is published in collaboration with the postgraduate departments of the Mysore University.

The Indian Institute of World Culture, Bangalore

The Institute was established in 1945 with the specific idea of intercultural exchange and universal brotherhood. It arranges meetings three times a week and also publishes books of cultural importance. It maintains a well equipped library and subscribes to more than 400 periodicals.

The Karnataka Economics Society, Dharwar

Established in 1979, it is a non political professional body with objectives of promoting academic and research studies, and serving as a documentation centre for research and developmental work. It periodically conducts conferences and seminars presided over by eminent economists and academicians.

Rastrkavi Govinda Pai Samshodana Kendra, Udupi

The Institute is sponsored by the Academy of General Education, Manipal and is affiliated to the Mangalore University. In addition to offering Ph D courses, it undertakes research projects relating to people and culture of the west coast of Karnataka. The Institute maintains a museum of folk arts and sculptures, a Konkani research wing, a manuscript library and an archaeological museum.

Chitrakala Parishat, Bangalore

The Institution was founded in 1960 as a centre of excellence in visual arts. The college section affiliated to the Bangalore University offers graduate and postgraduate courses in painting, sculpture, commercial art, art history and graphic art.

The Chitrakala Parishat periodically organises a number of national and state level programmes, seminars, exhibitions and camps in various disciplines of fine arts. It also brings out books on fine arts.

The Gayana Samaja, Bangalore

Established in 1905, the Institution is serving the cause of music and dance for over a century. The list of music luminaries associated with the Samaja is too long to be documented here. The Samaja periodically organises concerts, seminars, discussions and thematic music festival-cum-conferences and also honours doyens in the field of music and dance.

Premier Schools of Karnataka

The number of premier institutions in the field of school education is too large to be individually described, only two institutions are mentioned below because of their unique character.

Sainik School, Bijapur

The Sainik School, Bijapur is a residential school for boys started in 1963. It provides public school education with military bias and prepares the boys for the National Defence Academy. The school is affiliated to CBSE. Boys in the age group of 10–12 years are admitted to the VI standard based on an entrance examination. The school is known for building character and discipline among its students.

Kittur Rani Chennamma Residential School, Kittur

The school was started in 1969 to commemorate the heroic queen Rani Chennamma of Kittur. It is a residential girls' school aided by the government and managed by the Kittur Rani Chennamma memorial committee. The Institution aims at providing liberal education to girls with special emphasis on all round discipline and leadership. It admits girls to the VI standard after an entrance examination and prepares them for the state X standard and PUC examinations.

Children are exposed to various adventure activities like trekking, swimming, shooting, horse riding, gymnastics, karate and unarmed combat. It has developed into a unique institution giving military type training to girls.

Other Residential Schools

There are some noted residential schools with their own unique features in the state. The Ramakrishna Vidyalaya, Mysore run by Ramakrishna Mission, Mysore; Chennahalii residential school run by Janaseva Trust, Bangalore; Manik Prabhu Public School, Bidar; S B Residential School, Gulbarga; Residential Schools at Muddenhalli and Alike run by Satya Sai Trust; Mangala Jyothi Integrated Vocational School, Mangalore;... The list is endless.

Annexure II

Role of the Central Government in Education

Devolution of Powers

The Constitution makes an elaborate distribution of governmental powers—legislative, administrative and financial—between the union (Central government) and the states (governments). Adequate mechanisms exist for sharing of resources and responsibilities as well as for harmonious exercise of powers in the larger national interest.

A major challenge is to reconcile the priorities of the states with the national policy and plan frameworks in each field. The National Development Council (NDC) imparts a national character to the entire process of planning. In the education sector, the Central Advisory Board of Education (CABE) plays a lead role in the evolution and monitoring of policies and programmes.

The 10+2+3 pattern of education introduced in the country envisages a broad based education for children during the first 10 years of education. Decision regarding the organisation and structure of education is largely the concern of states. Within the overall policy framework of NPE, each state determines the educational structure to be adopted to suit the local needs.

Legal and Constitutional Provisions regarding Fundamental Right to Education

The Indian Constitution, adopted in 1950, directed the state to ensure education for all children up to the age of 14 years within a period of 10 years.

The directive principles of the Indian Constitution as specified in Article 45 urge that *"the state shall endeavour to provide within a period of ten years from the commencement of the Constitution free and compulsory education for all children up to the age of fourteen years."*

This constitutional provision implicitly covered "Early Childhood Care and Education" (which includes pre primary education), for children below six years of age and eight years of elementary education (I to VIII standards). The priority given to this provision was clearly evident from the timeframe specified therein. (No other clause in the Constitution carries this sense of urgency). Yet the state managed to ignore it just because Article 45 was placed in Part IV of the Constitution (Directive Principles of State Policy) and therefore was not justiciable.

The struggle to achieve this basic commitment has lasted more than 50 years. Even though the progress so far achieved is by no means small, it still falls short of the goal of Education for All. All subsequent efforts for achieving this goal have been directed towards the provision of basic education for all children. Though the target set for this was 1960, it has not been achieved till date. However, the period has seen the growth of understanding of the needs and aspirations of the different categories of the target groups.

Unnikrishnan Case

It was only in 1994 that the situation changed dramatically and another significant effort took place in making education a fundamental right. In a landmark judgement the Supreme Court of India (Unnikrishnan and others vs State of Andhra Pradesh and others) categorically pronounced that the

child has a fundamental right to free and compulsory education up to the age of 14 years and stated that this right flows from Article 21 (Right to Life). This judgement thus converted the obligation created by Article 45 into an enforceable right. It placed the onus clearly on the central and state governments to take up the responsibility for universalisation of elementary education.

It envisaged area specific and population specific planning that would ensure that enough attention is paid to educationally backward pockets and groups not only in the educationally backward states but throughout the country by a shift of emphasis from mere enrolment to retention and quality education.

In the same judgement, the Supreme Court further ruled that after the age of 14 years, the fundamental right to education continues to exist but is "subject to limits of economic capacity and development of the state". In another notable judgement, the Karnataka High Court impressed upon the duty of the state to provide free and compulsory education up to the age of 14.

Constitutional Amendments

Following this landmark judgement, the central government constituted the Saika Committee of State Education Ministers (1996) whose report in January 1997 recommended that the Constitution should be amended to make the right to free elementary education up to the 14 years of age, a fundamental right.

This was followed by the Constitutional 83rd Amendment Bill in the Parliament in 1997 and eventually passing of the "The Constitution (Eighty Sixth Amendment) Act 2002" more than half a century after India's independence. However, the intent of the Supreme Court judgement was diluted by exclusion of children from their right to ECCE and pre primary education.

Nevertheless the GOI made conscious efforts to achieve the goal of UEE through the following measures:

1. The NPE 1986 that helped to give greater focus to efforts of central and state governments to provide free and compulsory education of comparable quality to all children up to the age of 14 years.
2. Political commitment to make the right to elementary education a fundamental right and enforcing it through necessary statutory measures.
3. Enactment of 73rd and 74th Constitutional Amendments for greater decentralisation and enhanced role for local bodies, community organisations as well as voluntary agencies in efforts towards UEE.

Inadequacy of Elementary Education

Major changes in socio economic conditions that have taken place since the drafting of the constitution have brought in new demands which did not exist half a century ago. The eight years of elementary education is inadequate to equip the child with skills necessary for employment or knowledge to deal with a globalized economy. The child is left with no career options at the end of this stage. Thus, it is found that a minimum of 12 years of schooling is required to make a child employable.

Central Advisory Board of Education (CABE)

CABE is the highest advisory body relating to policy making in education in India. It provides a platform for the centre and the states to share their common concerns, review their experience and frame future policies and programmes. It makes the partnership implied in the concurrency of education in a federal structure meaningful.

CABE considered the 'World Declaration on Education for All' and recognised that it was a reaffirmation of the policy orientation given to elementary education in NPE 1986. It highlighted the need for increased financial inputs to achieve the goals of EFA. It thus also formulated a broad operational framework to receive assistance from international agencies for undertaking large scale projects.

It emphasised that the additional resources so generated through external assistance should be utilised for educational reconstruction which should go beyond conventional measures such as opening of new schools, construction of school buildings and teachers.

The goals, targets and strategies enunciated in the NPE 1986 and endorsed by CAGE were incorporated in successive five year plan proposals. These goals were pursued during the VIII and IX Plans, which also involved the launching of major projects supported by external funding and literacy campaigns under the National Literacy Mission.

However, CAGE did not function since 1994, resulting in a weakening of the centre-state dialogue on education policy. It was revived in 2004 and seven committees were constituted to deliberate on various issues concerning different stages of education.

Annexure III

Strategies Adopted in Karnataka for Multi Grade and Multi Level Teaching in Elementary Schools

Background

The Multi grade (MG) and Multi level (ML) teaching and learning environments have been in existence in India right from the days of the Gurukul system, when a Guru used to teach a number of pupils of different age groups in different disciplines simultaneously. Even in the modern system of education, they have become an unavoidable reality at the elementary level.

China has 4.20 lakhs MG schools with India following it. Several advanced countries like Switzerland, Netherlands, Belgium, Canada, Japan as well as Sri Lanka have sizeable percentages of them. Many of these countries follow local specific approaches in these schools, even though they broadly conform to the national curriculum.

In India, the UEE has added more and more dimensions to this important issue. It is necessary to recognise that MG teaching has remained an inevitable phenomenon in the educational scenario in this country as we continue to improve access and cover smaller and smaller habitations.

Among the government schools in Karnataka, 95% of lower primary schools have MG teaching in I to V standards while it is present in higher primary schools to the extent of 84% in I-VI standards and 45% in I-VII standards. (Eduvision document 2002). (Also see Tables EE 18, EE 19, and EE 20). Addition of VIII standard in some of the government higher primary schools has added to the problem. This is more or less the field level reality in the rest of the country too, though with minor variations in percentages.

MG situations in classrooms develop due to the following reasons too:

1. Schools are opened in habitations with less than 15 children and one teacher;
2. The number of teachers effectively teaching in the school gets reduced when a few are entrusted with non academic activities like census, elections, revision of electoral rolls, etc.
3. Absence of teachers due to long leave, deputation to other needy schools, unauthorised absence, etc.
4. Reluctance of teachers to work in schools situated in remote areas even when vacancies exist.
5. Several states prescribe norms for sanction of teachers' posts in schools (depending on the pupil teacher ratio). Some states (like Karnataka) provide a minimum of 2 teachers in lower primary schools and 4 teachers in higher primary schools (as it is found unviable to appoint one teacher per class in smaller schools).
6. Upgradation of lower primary schools into higher primary schools without providing extra teachers.
7. In Karnataka, the decision to add VIII standard to the elementary cycle has resulted in additional problems. The teachers tend to give more attention to VII and VIII standards thereby neglecting lower classes.

Karnataka has identified the existence of MG situations in schools as a very important issue and has tried to devise appropriate strategies to equip and build capacities in its elementary teachers to handle MG and ML situations with greater confidence.

Nali-Kali—Joyful Learning

The Nali-Kali (Joyful learning) programme developed under DPEP in Karnataka is an important step in the direction though it provides some limited solutions. In this system, the teachers develop a series of cards (in each subject) which replace the textbooks.

Nali-Kali is ideally suited for the lower classes as it enables children to learn at their own pace. A single activity can be designed to suit different classes of children and for different competencies in different subjects. The system was in practice in all elementary schools in I and II standards in 17 educational blocks and is being extended to all lower primary schools with smaller number of children.

The concept of Nali-Kali and activity based teaching methodology was fully incorporated in the "Chaitanya" teacher training modules developed by DSERT later. The concept of MG and ML has been discussed in the relevant chapter.

Bahumukhi Training Module

In 2003–04, DSERT developed an exclusive training module for MG teaching aptly named "Bahumukhi" (as the teacher plays a really multifaceted role in the classroom). It took almost one year to bring it out as the new strategies had to be field tested before concretising the concepts in the module.

The new strategies that were developed included grouping of classes, competencies, use of student groups in learning, management through peers and the same have been incorporated in a more scientific manner in the training module.

1. Objectives of the training module

The teachers are able to

1. handle MG and ML situations more effectively and with confidence, through efficient classroom management;
2. develop the ability to prepare daily/monthly/annual plans for MG/ML situations;
3. develop the ability to identify and teach similar competencies to children of two or more classes simultaneously;
4. develop better skills in use of available resources like classroom space, library books, learning materials, radio/video lessons, etc.;
5. increase learning time of children in each class through better time management;
6. understand effective use of co curricular activities in MG/ML situations;
7. develop skills to develop competency based evaluation techniques.

2. The Development of the Concept of MG and ML

One teacher teaching more than one class within the space of a single classroom is described as MG teaching. The teacher has to teach both curricular and co curricular subjects to different age groups of children studying at different levels.

The teacher has to make several adjustments and compromises to handle such situations effectively while ensuring effective learning in the classroom. The challenges that the teacher faces in such situations are ensuring that

- a. All students reach expected levels of learning;
- b. All students are engaged in the learning process simultaneously;
- c. Personal attention is given to the learning of every child;
- d. Activities and learning materials suitable to all children are used;
- e. All lessons in the textbook are covered within the prescribed time as per programme of work
- f. Even when teachers are given other duties, learning in the classroom takes place without hindrance;

- g. The textbooks designed for teaching in single class situations are adapted for MG situations;
- h. A timetable to suit MG and ML situations is prepared;
- i. All children undergo continuous comprehensive evaluation;
- j. The teacher maintains all prescribed records along with his/her regular work.

In the face of these challenges, the teacher has to continue functioning effectively. Hence, the most important point is that the teacher must be mentally prepared and accept the reality of such situations.

All the important principles of learning apply equally to MG situations. It is not necessary to formulate different principles for this purpose. Thus, it must be borne in mind that

- 1. Learning should be child centred;
- 2. Individual attention should be provided;
- 3. Learning should be through activities;
- 4. Learning should be participatory in nature;
- 5. Learning should take place in an environment free from fear;
- 6. Learning should be joyful;
- 7. All children should be able to acquire the desired competencies;
- 8. Evaluation should objectively test the learning of children.

3. Strategy 1: Use of Textbooks and Combining of Competencies

In this strategy, the following important points are taken into consideration while combining similar competencies—class, subjects, competencies, workbooks and periods.

Since the present textbooks are prepared based on competencies, the first strategy is to use them in MG situations by combining similar competencies for two or more classes. Since all language textbooks contain same areas and competencies appear to be mutually connected, the following points are noticed when we try to combine language competencies:

- 1. Each competency goes on expanding from class to class. If we consider listening as one area, in I standard, we have popular songs and stories whereas in IV standard we have simple dialogues of situations familiar to the child. It is very difficult to combine such competencies even though they appear to be mutually connected.
- 2. Some competencies are introduced in later classes. For example, in III standard the child identifies the central theme in a lesson or is able to sequentially identify events.
- 3. Even then, it is possible for a teacher to combine competencies and teach different classes. For example, in the area of listening, one competency may be taken as 'Understanding of dialogues in familiar situations'. The teacher can use the same strategy to make children learn this competency in I, II and III standards simultaneously with a certain amount of preparation.

In Mathematics, it is possible to combine competencies more methodically. A particular competency in a class is treated as a continuation of the same competency of the previous class. For example, in I standard counting is from 1 to 19 and in II standard it is from 20 to 99. The learning process is the same and hence classes can be taught together. But there are limitations too. Division is taught for the first time in III standard. Hence, it is difficult to combine this competency with any other of the previous class.

In EVS, a majority of the competencies are not only related to each other but also graded. Textbook use is not as in languages. Hence, content can be combined and taught. Workbooks can be effectively used. Certain subject areas like food, health, cleanliness, cooperation, discipline are not confined to one class and hence classes can be combined.

But in any subject, it is not possible to combine competencies 100%. Since competencies are graded, they get separated at some level. Similarly, it is not possible to combine all competencies in all classes.

Even after teaching competencies in combination, the teacher has to decide the extent of the content that can be handled together and the stage at which classes have to be taught separately. It is also important to note that the teacher need not teach lessons as given serially in the textbook. This requires adequate preparation and planning (Annual Programme of Work) on the part of the teacher from the beginning of the year itself.

4. Strategy 2: Classroom Management

Classroom management is a very important strategy in MG and ML teaching. The teacher has to decide which classes can be combined to achieve the desired level of learning. Strength of a class is also an important factor in classroom management. The following table gives possible options for teachers to combine classes.

Teacher	T1	T2	T3	T4
1	1, 2, 3, 4, 5			
2	1, 2	3, 4, 5		
	1, 2, 3	4, 5		
	1, 2, 5	3, 4, 5		
3	1, 2	3, 4	5	
	1	2, 3	4, 5	
4	1	2, 3	4	5
	1, 2	3	4	5

In Karnataka, English is introduced as a subject from V standard. (It is being taught as a non examination subject from I standard from 2007–08). Science and Social Science are taught as separate subjects from V Standard. The third language is introduced from VI standard. Hence in higher primary schools having MG situations, a minimum of 2 teachers are to be assigned to teach the lower primary classes. The other teachers have to handle VI and VII standards.

There are advantages in combining classes serially.

1. By combining classes 1 and 2, children of class 1 can adjust more quickly to the formal school system.
2. A child backward in a particular class can learn with a backward/forward child from the next class.
3. Group activities like songs, story telling, creative activities can be effectively performed if classes are combined serially.
4. Even though competencies are graded from class to class, several concepts in several competencies can be taught together effectively.
5. One activity performed in a class can be used as a supplementary activity in the next higher class.
6. Since children belong almost to the same age group, participation will be better in serially combined classes.

5. Strategy 3: Time Management

Time management is critical to teaching in MG and ML situations. The teacher prepares the annual programme of work in the beginning of the calendar year with the following parameters in mind: the subject to be taught, time available, number of classes to be taught, number of teachers available for teaching, etc.

In Karnataka elementary schools, daily academic work is divided into 8 periods of 40 minutes each with 5 periods taught on Saturdays. The number of periods available per week ($8 \times 5 + 5$) works out to 45. But it is difficult to prepare a timetable in MG situations because:

1. In a 40 minute period, it is difficult for one teacher to take up activities for more than one class and complete them.

2. This has an adverse impact on the completion of syllabus as per the annual programme of work.
3. Even if activities are completed, it is difficult to provide individual attention and ensure that every child completes the assigned tasks.
4. During direct teaching (as certain areas are not amenable to MG teaching), children of other classes cannot be effectively engaged, thereby reducing learning time in respect of each child.
5. Quality of learning also takes a beating as teachers are subjected to psychological pressure to complete portions.

Hence, effective time management is critical to effective learning in MG classes. Thus, teachers combine 2 periods with a total duration of 80 minutes from Monday to Friday while on Saturday, they take one period of 40 minutes and 2 periods of 80 minutes. This results in the following positive trends:

- The learning time for children in each class proportionately increases in an 80 minute period;
- The teacher gets sufficient time to complete the activities taken up;
- When in one class direct teaching is taken up, in the others children can be engaged in practice exercise or evaluation activity;
- Individual attention time also increases. The teacher can take up remedial measures where required;
- Competencies in certain co-curricular areas can be taken up in all children together—story telling, action songs, group singing, quiz programmes, drawing, library activities, selected experiments in science, games and physical exercises.

An example of a revised timetable based on the above example is:

Day	1 Period	2 Period	3 Period	4 Period
A. Monday To Friday	Language	Maths	EVS	Co curricular activities
B. Monday To Friday	Kannada English Hindi	Maths	Science/ Social Science	Radio lesson/ Edusat lesson Remedial teaching Games
C. Saturday	P. T.	Language	Maths	_____

A. Applicable to lower primary classes

B. Applicable to higher primary classes

C. Physical Training (P. T.)

With the above arrangement, during language, Maths and EVS periods, all classes have the same learning activity in that particular subject.

In each subject, competencies are combined and taught on a graded basis. The teacher often takes up the same preparatory activities for all classes as there are similarities in several competencies and activities in a particular subject.

Radio lessons/Video lessons are integrated into the academic timetable. When one class has a Radio lesson/Edusat video lesson, children of other classes are engaged in group/individual activities for which the teachers prepare timetables and activities separately. The periods for co curricular activities are also divided according to the nature of activities.

6. Strategy 4: Space Management

In a majority of MG schools, the number of classrooms available is equal to the number of teachers. In some of the schools, the number of classrooms is more than/less than the number of teachers. If the number of teachers is less than the number of classrooms, then the teachers can use equal number of classrooms for direct teaching and the remaining rooms can be used for remedial teaching, display of TLM and library activities.

If the number of classrooms is less than the number of teachers, two teachers will have to share the same classroom. In such a scenario, the teacher has to explore all available facilities including external environment like verandah, outside empty walls as blackboards, shade of trees, etc.

In MG classes, classes can be combined depending upon the number of children. While combining classes, proper attention has to be given for providing sufficient space to each child for proper learning. When children are learning, there should be sufficient space for the teacher to move around and guide them.

The teacher should also give proper attention to the organisation and place for use of TLM in MG situations effectively. The material prepared by children should be displayed in the classroom suitably and replaced as and when new TLM is developed. In each classroom the lower portions of the classroom walls can be converted to blackboards for use by children.

7. Strategy 5: Lesson Plan

In MG situations it is sufficient to prepare lesson plans subject wise according to units. Class wise and subject wise lesson plans are not necessary.

In Karnataka since teaching-learning process is activity based, the teacher prepares one lesson plan for each unit and merely indicates the dates on which particular activities are taken up. When classes are combined for teaching a particular competency, the teacher merely indicates the activity that he is going to take up.

Even when there are no linkages between competencies (e.g. addition and division) the teacher can still prepare similar preparatory activities and can indicate in the lesson plan.

8. Strategy 6: Class Management:

Even though class management depends on the number of classrooms and teachers available, through planned class management, we can significantly increase the learning time of children. Even in a one-teacher one-class situation, the learning speed of children varies significantly. This results in formation of different groups within a classroom.

Some of the important points to be considered in class management are:

1. Number of classes/groups which are subject to direct teaching
2. Lessons/competencies which are combined in MG situation
3. Different levels of activities
4. Person responsible for management
5. Space management
6. Time management
7. Teachers' capacity
8. Number of children in each group

Some of the strategies in class management are:

1. The TLM should be kept ready depending upon the number of children.
2. The instructions to be given to children should be planned by the teacher in advance.
3. The teacher should decide whether learning should take place individually, in groups, or collectively.

4. In each group, there should be at least one child who is good in learning.
5. If one class is undergoing direct teaching, the teacher should manage other classes by engaging them in group activities.
6. After evaluation, children must be given remedial teaching, if necessary.
7. Depending on the level of learning of each child, the teacher should review the formation of groups and activities to be given every day.
8. If at any given level the children do not acquire the desired competencies, the activities should be repeated or the teacher should design new activities to teach the same competencies.
9. If after evaluation, the children have reached the desired levels, the same children can be included in direct teaching according to requirements.

9. Strategy 7: Use of Library

Each school has a number of books which can be used as supplementary reading material in addition to textbooks. Children get attracted to colour and pictures in books. Use of library books is a major strategy in handling MG situations. The children also acquire reading habit, additional knowledge, thinking ability, and finally certain amount of entertainment too. The children are able to acquire some of the following competencies through reading.

1. Reading simple sentences;
2. Read easily and without difficulty;
3. Ability to copy;
4. Identifying and making use of simple rhymes;
5. Reading and understanding simple poems, songs and stories;
6. Reading, understanding and expressing in own sentences.

Books can be displayed in such a way that children can easily pick them up. Books can also be classified into various categories by subjects, by difficulty levels and for ease of handling. These books can be used for various learning activities—preparatory activities, learning, exercise and evaluation. One period per week can also be used as library period.

10. Strategy 8: Use of TLM

TLMs play a major role in clarifying concepts learnt by children. It is possible for teachers to prepare attractive and at the same time, low-cost and no-cost TLMs. In order to increase the effectiveness, the TLM can be prepared with the help of children. An effective and talented teacher can use TLMs effectively. Following are the points to be considered in the preparation of TLMs.

1. They must lend themselves for use in MG and ML situations as well as in handling more than one competency;
2. Both teachers and children must be able to use them with ease;
3. They should last long even when made of low cost materials;
4. They should lend themselves for use in continuous and comprehensive evaluation;
5. They should be made to scale;
6. They must be such that they can be remade easily when required;
7. The number of TLMs used should depend on the number of children.

Use of Newspaper

A newspaper lends itself for use in all subjects and in many situations.

In Language

1. I standard children can be asked to identify letters of the alphabet and words.
2. II standard children can be asked to identify complex letters (gunitakshar) and words, copy words and sentences.
3. III standard children can be asked to read small stories or news items.
4. IV standard children may be asked to write dictation using selected words and sentences from the newspaper.

In Maths

1. I standard children can be asked to identify numbers.
2. II standard children can be asked to identify dates, weeks and numbers.
3. III standard children can be asked to identify units of measurement.
4. IV standard children can use the sheet on share market for doing simple problems, collect the prices of gold, silver and other commodities and understand daily variations in prices of commodities.

In EVS

1. I standard children can be asked to identify animals, plants, birds, copy pictures.
2. II standard children can be asked to copy pictures.
3. III standard children can read and understand local news, weather reports, news about local places.
4. IV standard children can read and understand the news about the state and the country, exports and imports, capitals of states and countries, read and understand maps, etc.

11. Strategy 9: Use of Outside Resources

There are various ways of securing outside support for handling MG situations. This will help reduce burden and pressure on teachers in such schools.

1. The teacher can identify talented people in neighborhood of the school, more so in villages—retired teachers, persons interested in education, unemployed and educated youth, old students of the school, sports persons, artists, local officials, artisans, etc. Every village has a number of talented folk artists, story tellers, members of Yuvak/Yuvathi mandals.
2. The teachers can maintain a list of such persons and use them in conducting various activities within the school.
3. The teachers can also invite officials like doctors, nurses, police officials, panchayat secretaries, agriculture extension officers, and arrange interactive sessions with them so that the children acquire more knowledge about these offices and learn to appreciate their work.
4. The teachers can also conduct Ma-beti melas, parents' meetings, school festivals, school exhibitions, etc, with outside support.
5. The teachers can also plan picnics, educational excursions to nearby places of historical/educational interest. Public support can be enlisted to arrange these events.

Some of these strategies were incorporated in the teacher training module, "Bahumukhi", and every teacher of elementary school was trained in it. This was only the beginning. Later on, it was found that enunciating the principles and strategies for MG teaching was not sufficient. The teachers needed to develop individual strategies and list competencies which lend themselves to MG teaching. Since they required help in transacting the same content in different MG situations, in 2005–06, DSERT embarked on a massive effort to convert the content in all the subjects in all the primary classes by preparing teachers' handbooks to help teachers handling different MG situations. The work continues...

Annexure IV

School Education Reforms in Karnataka

THE TRIMESTER SCHEME

Introduction

Karnataka state is a pioneer in introducing several successful and innovative experiments in the field of school education. Some of the most important of these experiments are

1. Nali -Kali (activity based learning programme)
2. Chaitanya (activity based teaching methodology)
3. Internship in DEd course (pre-service teacher education programme)
4. Bahumukhi (MG ML teaching methodology)
5. Keli-Kali (direct to classroom radio broadcasts)
6. The Edusat project (direct to classroom video broadcasts)
7. Shikshanadalli Rangakale (dramatisation of teaching techniques)
8. Chinnara Angala (summer bridge course for out-of-school children)
9. Mahiti Sindhu (computer education in schools)
10. Prerana (foundation course for newly recruited primary teachers)
11. Training of teachers through teleconferencing
12. Learning Guarantee Scheme in collaboration with APF
13. Introduction of activity based textbooks in all classes
14. Hosting of state textbooks on the web site
15. Akshara Dasoha (the hot cooked midday meal programme for government and aided school children)
16. Evaluation of all the government and aided school children through KSQAO

During 2004-05, Karnataka embarked on yet another experiment in the field of school education. Problems of the physical load of the school bag, heavy syllabus, and the increasing fear of the promotional and public examinations among students had been engaging the attention of the state education department and academicians for a long time. Thus, after considerable debate among the stakeholders the state made an effort to reform the present education system and introduced the trimester system in school education in V to IX standards.

The trimester system has a sound psychological basis for learning in a spaced manner. It is a proven fact that learning is meaningful and better consolidated when the learning matter is spaced comfortably. This facilitates long term memory and hence is preferred to exposure to a vast content at a stretch.

The introduction of the trimester system was watched by the entire country with great interest. Oral testing, project work, competency based testing, giving due importance to life skills, introduction of

grading in evaluation, and remedial teaching of slow learners, were some of the important highlights of the system.

The Policy Planning Unit conducted a study of the system during January–March 2005 by getting feedback from all the stakeholders—students, teachers, Head teachers, parents and education administrators. The feedback was largely positive. Based on the same, certain changes were introduced in the system from 2005–06.

This paper documents the philosophy, the process and the implementation of the Trimester System.

The Anomalies in the Annual System

As we all know, the present annual school system practised in India is more or less based on the pattern that we have inherited from the British. For a number of years, parents, teachers and educationists pointed out various anomalies in the present education system and stressed on the need to rectify them and improve the system to make it more child friendly.

Some of the important anomalies pointed out by educationists in the annual education system were

1. The child had to bear unnecessary physical and mental load throughout the academic year.
2. The annual system of examination tested only the memory of the child.
3. The child had to retain all that he had learnt during one year to answer questions asked in an arbitrary manner in just one end-of-the-year examination lasting 150 minutes.
4. More weightage was given to testing the knowledge rather than understanding, application, and creative abilities of the child.
5. The system did not recognise and give space to slow learners and children having learning disabilities.
6. The system did not give special attention to children from rural areas, first generation learners, children from weaker sections of society who failed and dropped out of the school education system.
7. Due importance was not being given to non scholastic areas and co curricular activities as well as development of the proper personality of the child.
8. The fear of examinations combined with parental and peer pressure to perform better had a bearing on the emotional and mental development of the child. Several students dropped out as they were unable to cope with this pressure. In some rare cases, this led to suicides also.
9. As more importance was being given to the end-of-the-year examination, the child neglected studies for a major part of the year. The pressure built up as examinations approached in March every year.
10. As a result, we were having an education system producing a pass percentage averaging around 50 in X Standard public examination and even less in the PUC examination for the past several decades.
11. The same concept was given different treatment in different subjects which would confuse the child.
12. "Learning by doing" was not given due importance. In a majority of the cases, the child had to be satisfied with blackboard experiments by the teachers.
13. Changes had taken place in every field over the years, which necessitated changes in the field of education too.

The Evolution of the Concept

The seed of going in for full-scale education reforms was sown in a workshop (conducted to reduce the load on the school child) held under the chairmanship of the then Education Minister Prof. B K Chandrashekar.

For over a year, hundreds of workshops were held at various levels throughout the state. DSERT initiated a public debate over the issue and invited suggestions and opinions from all concerned. This was followed by a series of meetings and workshops which culminated in a state level workshop held in January 2003 to formulate an Action Plan for Education Reforms. For almost six months during the first

half of 2003, experts, educationists, classroom teachers and educational administrators met every Tuesday at DSERT to crystallise the opinions and suggestions received from various quarters and then develop a system which would become an alternative to the annual system.

In several workshops, the then Education Minister Prof. B K Chandrashekar personally participated and exchanged views with classroom teachers, experts in the field and also parents and children. Sometimes it was carried out through "phone in" programmes over AIR and TV. Several major newspapers invited views from readers and published their comments besides expressing their own through editorials. The apparent anomalies in the annual system were discussed and solutions to each of these were explored.

Finally, what emerged was a viable and working model which was named as "**The Trimester System**". It was decided that the system would be introduced in the entire state as pilot testing in a few schools would not be advantageous, considering the spread and diversity of the state apart from the 60,000 primary and secondary schools that had to be brought under the system.

DSERT brought out the guidelines for introducing the trimester system as well as an exhaustive teacher training module, "*Sourabha*", which was distributed to all the schools in the state. Firstly, educational administrative and academic functionaries were trained in divisional level workshops who in turn trained the Head teachers and classroom teachers in the cascade mode using the "*Sourabha*". Throughout the academic year, interactive meetings were held with all the stakeholders and educationists, and opinions were gathered to make the system more meaningful. Several modes of communication were used for the purpose—the departmental monthly magazine "*Shikshana Varthe*", teleconferencing with all the DIETS, direct interaction in cluster and block meetings, besides phone in programmes over radio and TV.

The teleconferencing conducted on 22nd January 2005, from SIRD, Mysore and involving all the 20 DIET faculty, primary, secondary teachers and teacher educators elicited overwhelming response with more than 300 clarifications, opinions, feedback and suggestions to improve the system.

A study was also undertaken by the Policy Planning Unit to come out with recommendations which was also used to improve the system for the academic year 2005–06.

The Objective of the Trimester Scheme:

The trimester system was introduced in all schools (following the state syllabus) throughout the state from the academic year 2004–2005, through a Karnataka Government Order ED. 24. DGO 2004 dated 16 February 2004.

The objective of the trimester system was to

1. make learning more meaningful so that learning takes place continuously and is spaced throughout the academic year;
2. remove the fear psychosis about the existing system of examinations;
3. remove the habit of testing only the memory of the learner and bring the education system closer to the average and below-average child;
4. evaluate the child both in scholastic and non scholastic areas, thus giving due importance to development of the all-round personality of the child;
5. evaluate the child only in areas he has learnt in a particular trimester so that the burden of memorising the entire year's content is removed.

This does not mean that the child tends to forget whatever he has learnt in that particular trimester as learning is a continuous process with concepts and skills being carried over in subsequent periods. Here, importance is not given to mere memory but to competencies and skills that the child acquires during the process of learning.

Textbooks

As a sequel, it was proposed to prepare textbooks with an integrated approach in tune with the trimester

system. From 2005–06, textbooks based on the trimester system were introduced in V Standard. It was proposed to introduce textbooks in a phased manner in all classes from VI to IX Standards over the next few years.

Periods Allotted to Each Trimester

Instead of the academic year treated as a unit with evaluation spread over monthly tests, mid-term and end-of-the-year examinations, in the trimester system it was split into three periods of three months each.

I Trimester	-	July, August, September
II Trimester	-	October, November, December
III Trimester	-	January, February, March

The most significant part of the system was giving due importance to slow learners and remedial teaching. The brighter children were encouraged to teach slow learners.

It must be noted that June was a month when teachers participated in departmental programmes such as enrolment drives. Hence the month of June was largely to be utilised for recapitulation of previous concepts, remedial teaching and evaluation. For children who had not secured two C+ grades in the previous year, this was one more opportunity to do better, obtain a C+ grade in the post test and go to the next class. This period was also to be utilized by teachers to take up bridge courses for below average children. These children were to be grouped as per their abilities and remedial teaching given using the help of brighter children. There was a pre test which would identify learning gaps and learning distortion leading to remedial teaching followed by a post test. The month of June was also to be used to prepare the child academically for the coming year.

In the trimester scheme, in 2003–04, the syllabus was generally divided as follows:

- 30% during the first trimester
- 30% during for the second trimester
- 40% during the third trimester

However, heads of institutions and classroom teachers were given flexibility in adapting this system to their schools. Non availability of teachers and declaration of holidays due to unforeseen circumstances was factored into this system.

There was also provision to carry forward lessons not taught in a particular trimester to the next trimester. Classroom teachers had the option to divide the periods further and keep specific periods apart for teaching/learning, evaluation/remedial teaching. There were remarks that the second trimester was too short because of October holidays. Flexibility was given to the teacher to prepare the annual work plan according to the availability of teaching periods.

In cases where there was disruption in teaching due to long absence of teachers (due to various reasons), schools were permitted to take the services of retired teachers with the permission of the BEO. Even otherwise, the students could be taught through MG/ML teaching.

Following widespread consultations and considering the availability of academic days in each trimester, the distribution of syllabus was modified in 2005–06 as follows:

- 35% during the first trimester
- 30% during the second trimester
- 35% during the third trimester

October holidays were split to provide holidays for the end of the second trimester too.

Lesson plans in primary schools were to be prepared by the teacher for a unit or a particular competency as per the Chaitanya model. In secondary schools they were to be prepared for each unit. The definition of a unit was left to the individual teacher as it varied from subject to subject.

The lesson plan was to consist of the following items: content analysis of the unit, expected learning outcomes, evaluation method to be adopted for each learning outcome, competency based unit (diagnostic) test.

Evaluation in the Trimester System

In government primary schools, the existing system of continuous and comprehensive evaluation was continued up to IV standard. The progress report card was also designed based on competencies. Hence a separate evaluation at the end of every trimester was not deemed necessary.

For V to IX standards, the new competency based evaluation was designed and introduced at the end of every trimester. In V to IX standards, evaluation in each subject at the end of every trimester was for 90 minutes. It was designed to encourage learning and creativity and also test the understanding, application and other skills picked up during the trimester. At each stage, the teacher had to analyse the deficiencies in the learner and take up remedial teaching.

The evaluation dates were also specified as follows:

- I trimester—After 15 September
- II trimester—After 15 December
- III trimester—After 25 March.

The evaluation dates (and remedial teaching held afterwards) could also be adjusted to synchronise with holidays. Thus the I trimester evaluation could synchronise with October holidays, II trimester evaluation with Christmas holidays and III trimester evaluation with summer holidays. These were indicative and probable dates, and could be changed for valid reasons to suit the school's requirements.

For example, schools which were SSLC examination centres or SSLC valuation centres could have the III trimester evaluation in VIII and IX standards immediately after the SSLC examination.

Since teaching/learning took place at the individual class level, it was highly desirable and necessary that the evaluation also took place at the same level. That meant the teacher who taught a particular subject had to prepare the competency based question paper, administer it and evaluate the performance of the students himself. The practice of annual and mid-term examination question papers being printed by outside agencies, like teachers' associations, was totally discouraged.

Salient Features of Evaluation in the Trimester System

1. The evaluation in the trimester system was designed to test the competency of learners rather than their memory.
2. As regards evaluation in languages, due weightage was given to testing the oral and written communication skills of the learner. The evaluation was done to test the competencies in languages by using non textual matter like stories, dialogues and essays of similar standard. The learner had to read this material, understand and answer questions based on it.
3. In core subjects, due weightage was given to test the understanding, application, and other skills of the learner.
4. The evaluation was so designed as to analyse the deficiencies in the learner and take up activity based remedial teaching.
5. In V to IX standards, unit test was retained while the monthly tests, mid-term and end-of-term examinations were dispensed with.
6. The unit test was basically meant to identify learning gaps in the teaching-learning process. It was not perceived as a burden to either teachers or students.

7. The definition of a unit was left to the discretion of the individual teacher as it varies from subject to subject. In languages a unit may be a lesson whereas in core subjects it may be a group of lessons having a common concept or a theme.
8. Hence, flexibility was given to the teacher to first determine the size of the unit, prepare the lesson plans accordingly, identify the learning gaps by means of unit test which could be oral or written and finally plan for remedial teaching.
9. It was not necessary to prepare a blueprint for preparing the question paper for the unit test.
10. Minimal records such as the notebook in which the child answered the unit test, or the record maintained by the teacher for oral questioning, the list of oral questions prepared, were considered sufficient. It was not necessary to maintain marks registers for the unit tests.
11. The evaluation at the end of every trimester was limited to the syllabi taught in that particular trimester.
12. The basic premise was that there should not be any examination related pressure on the child. The child could improve his competency through learning, evaluation and remedial teaching.
13. The teacher had the option to take up remedial teaching through action research projects.
14. The children could be graded and learning could be encouraged through group activities.
15. The introduction of trimester system was not meant to be a physical burden on the school or students. The examination papers were to be prepared at school level/class level by the concerned subject teachers. The question papers were to be administered either on the blackboard or through making copies using duplicating machines. The cost was to be met out of available school funds (accumulated funds, current funds, school fees, fees reimbursed from government, government grants, SDMC funds, etc.).
16. Printing and distribution of question papers by external agencies was banned. Any school purchasing question papers from outside sources was liable for action.
17. The evaluation pattern in the trimester system was as follows:

Evaluation Pattern

Part A Scholastic Areas (For Each Subject)		Marks
(a) Written Evaluation		40*
(b) Oral evaluation		10
Total		50
Part B (Non Scholastic Areas)		
(a) Project Work		10
(b) Value Education		10
(c) Life skills		
- Physical Education		
- Yoga		
- Health Education		20
(d) Art and Creativity		10
Total		50

* Duration of the written evaluation 90 minutes

The marks obtained by the child were converted into grades as indicated later in this Annexure.

Exceptions

English was introduced as a second language from V standard and Hindi as a III language from VI standard. Hence written testing of the child in these classes and in these languages in the I trimester

created difficulties as experienced by the teachers. Therefore the evaluation scheme was changed to oral testing for 40 marks and written testing for 10 marks. However, as per the prescribed pattern, evaluation in these subjects was to take place from II trimester onwards and getting two C+ grades in these subjects was a must for promotion.

Oral testing was not prescribed for the III trimester examination of the IX standard as the students were given the X standard public examination format of the question paper to help them familiarise with it. The annual system continued for the X standard with changes in the model of the question papers.

Non Scholastic Areas:

Non scholastic areas were introduced as compulsory subjects for the first time from 2004–05. In schools which had teachers for physical education/music/craft/drawing, the respective teachers were given the responsibility of taking classes in their related areas and evaluating children. But even in such schools when the number of sections was more, general teachers shared their work. In schools which did not have such teachers, general teachers were given this responsibility.

The evaluation in non scholastic areas was mainly through observation and was done by a designated teacher for each class or a group of teachers handling a class.

It was aimed to train all teachers in handling non scholastic areas through appropriate teacher training modules over a period of time. Hence, no teacher was to feel that it was not his/her responsibility to handle these areas as they were as important as scholastic areas in the total personality development of the child.

Weightages

Following were the suggested weightages given to the objectives:

- (a) Languages—Knowledge 25%, Understanding 40%, Expression 30%, Appreciation 5%
- (b) Core Subjects—Knowledge 25%, Understanding 45%, Application 20%, Skills 10%

Weightages to the types of questions—objective 30%, short answer 50%, long answer 20%. Difficulty level of the questions—Easy 30%, Average 50%, Difficult 30%.

Teacher Training and Guidance

The responsibility of training teachers in the trimester system (or for that matter all departmental programs) was the responsibility of the BEO/BRC. These two officials were requested to use all resources at their disposal to give guidance through CRC and educational coordinators at the cluster level. Every year they were to hold frequent meetings to cover all the teachers in the block and apprise them of changes made in any programme for that year. They were also to use the structure of teachers' associations for dissemination of academic information.

Issues Regarding Practising Schools Attached to Teacher Education Institutions

Both in secondary and elementary teacher education institutions the practice teaching taking place in attached schools did not follow a set pattern due to the mismatch of their academic calendars and that of the attached schools. The number of student teachers attached to any particular school was to be based on the student strength and number of classes in the practising school. This number was not, in any case, to exceed 8–10 student teachers per practising school. Practice teaching was to take place under effective supervision only. Lessons given to a student teacher were invariably to be lessons allotted to that particular trimester only.

Grading

Today, the grading system is a popular mode of evaluating students' performance throughout the world. Australia uses a 7 point scale, Britain uses a 6 point scale, USA uses a 5 point scale. NCERT has proposed a 9 point grading method. It proposes grades for failed students too. DSERT studied all these systems before introducing grading in the state. In standards I to IV, continuous and comprehensive evaluation is being followed in government elementary schools. This system was continued and hence grading the children in these classes was not required.

In V to IX standards, grading was introduced as a part of reformation of the evaluation system. It is possible that teachers found it difficult in the beginning to grade competencies development from the usual content coverage method. Hence, it was planned to train all teachers over a period to make a smooth switchover to the grading method.

The following was the grading pattern followed in 2004-05 in Karnataka.

A Grade	-	75%	-	100%
B +Grade	-	60%	-	74%
B Grade	-	50%	-	59%
C+ Grade	-	30%	-	49%
C Grade	-	Below	-	29%

Many students and teachers expressed the view that the spirit of competitiveness should be there even among students securing grade A. Hence, it was decided to introduce one more grade as follows from 2005-06. The progress report was modified accordingly.

1. A+ — 90% and above	Outstanding	(6)* Grade values
2. A — 75% – 89%	Excellent	(5)
3. B+ — 60% – 74%	Good	(4)
4. B — 50% – 59%	Above average	(3)
5. C+ — 30% – 49%	Average	(2)
6. C — Less than 29%	Below average	(1)

However, the progress report was designed to only mention the grades of a student and not compare his performance with that of his peers. Several teachers, without understanding the philosophy of the system, favoured giving both marks and grades in the progress report cards. This was not advisable as grading was considered to be better than the marking system.

In certain districts, schools were obtaining approval of BEO before declaration of results. This practice stood abolished from 2004-05. Schools were advised to call the SDMC meeting and apprise the members of the SDMC about the performance of the children, officially announce the results and issue progress reports on 10 April every year.

Social welfare, women and child welfare, SC/ST and other departments giving incentives to school children were advised to modify their norms to identify beneficiaries according to the grading system and to fix minimum grades (rather than marks) of eligibility. Even when they had to select a few students out of a large number, they were advised to have their own testing mechanism like oral interview or a written test.

Calculation of Grade Point Average

The grade values as given above provide an easy method of calculating the Grade Point Average to determine the position of a particular student in comparison to other students. But it was not to be used to rank the students in a class or for any other academic requirements. The example given below can be

used only to evaluate his performance in other situations—(only when necessary)—admission to a hostel, award of scholarship, award of any other incentive when a few students have to be chosen out of a large number of students, etc. For comparison of overall performance of two students in a particular situation the following method was suggested.

<i>Subjects</i>	<i>Student X</i>	<i>Student Y</i>
Language 1	A+	C+
Language 2	C+	B
Language 3	B	A
Science	B+	B+
S.S.	C+	C+
Maths	B	C+
GPA*	3.33	3.00

* GPA = Grade Point Average calculated on the basis of grade values indicated earlier: A+: 6, A: 5, B+: 4, B: 3, C+: 2, C: 1

* Student X GPA = $6 + 2 + 3 + 4 + 2 + 3 = 20/6 = 3.33$

Student Y GPA = $2 + 3 + 5 + 4 + 2 + 2 = 18/6 = 3.00$

The overall performance of Student X is therefore better than that of Student Y.

Students were evaluated in non scholastic areas in Part B through activities and observation.

In Part B the students were evaluated on a 3 point scale as follows:

A Grade	— 75 % – 100%	Good
B Grade	— 50% – 74%	Average
C Grade	— Below 49%	Below Average

Declaration of Results

No-detention policy is currently followed in government elementary schools up to IV standard, as the child is evaluated through continuous and comprehensive competency based evaluation. In these classes only minimum attendance is required for promotion to the next class. In private schools in I to IV standards, the same evaluation rules of trimester were to be applied till the teachers in them were trained in continuous and comprehensive evaluation techniques.

For other classes, the declaration of the result of the child depended on his/her performance throughout the year. The grades obtained in the three trimesters were considered for promoting the child to the next class along with a minimum attendance of 75%. Further, a minimum of two C+ grades in every subject were required for promotion.

Minimum Attendance

The student is required to obtain a minimum of 75% (165 days) attendance of the total number of school working days (220) to be eligible for promotion. If there is a shortfall the Head teacher has powers to condone up to 30 days for valid and medical reasons. Out-of-school children and dropouts are brought back to schools throughout the year and under various departmental programmes. These children are admitted to various classes only after a pre test and as per age criteria. For these children, the attendance rule should be applied only from the date from which they are admitted to school.

For example, if the child is admitted in October, the 75% attendance should be calculated from October only. In such a case, the child should obtain a C+ in the two remaining trimesters along with attendance for becoming eligible for promotion to the next class.

The same rules apply to migratory children too. The 75% attendance rule should be applied to the days they have attended (Head teacher can condone 30 days). Even here, the child should have appeared for two trimesters and obtained a minimum of C+ in both the trimesters to become eligible for promotion.

In case the child cannot attend a trimester examination on medical grounds or because he/she has to attend sports meets /republic day camps/ district/state level/national level competitions/exhibitions, special exemption can be given but limited to only one trimester examination.

If these children fail to get C+ in the remaining two trimesters, they have to be given remedial teaching, a post test conducted in June and then only declare the result declared on the basis of performance.

Remedial Teaching and Declaration of Results

If a child fails to obtain a minimum of two C+ grades, then the child is given remedial teaching in the concepts in which he is weak and then given a post test. If his performance improves and he/she obtains a minimum C+ in that particular subject, he is promoted to the next class. If the child continues to get C grade even after remedial teaching, then he is retained in the same class.

Some important features are:

- (a) Identifying children who get C grade at any stage, and through appropriate remedial teaching, helping them to reach C+ and above levels.
- (b) Teachers need not write notes of lessons every day but prepare unit plans for teaching and evaluate through unit tests.
- (c) A special emphasis is laid on "Action Research" projects which can be taken up by teachers to solve classroom related academic problems.

The Study Report on the Trimester System

In order to understand the of strengths and limitations of the system and to enhance its implementation, the Policy Planning Unit undertook a comprehensive study during the months of January, February and March 2005. The purpose was to get feedback on the system from all the stakeholders—children, parents, teachers and Head teachers working in government, aided and unaided schools, SDMCs and also educational administrators.

The timing of the study provided scope for various stakeholders to share their views on implementation of the system and contribute towards its refinement. At the time of collating the data for the study, teachers both in the private and government sectors had completed two trimesters and were preparing children for the third. Their experiences offered value addition along with the perceptions of parents both in urban and rural areas.

The study was undertaken in 16 educational blocks spread across 8 educational districts and 4 revenue divisions of the state. The selected educational blocks were Bangalore North, Anekal, Chitradurga, Molkalmur, Mangalore, Belthangadi, Gundulpet, Kollegal, Bidar, Basava Kalyan, Raichur, Devadurga, Bijapur, Sindhagi, Sirsi and Haliyal. In each block 3 high schools and 3 higher primary schools were selected randomly.

Out of the selected schools, 51% were government and remaining were private (aided and unaided) schools. Similarly, in selection of teachers and other stakeholders, 50% female representation was maintained.

Size of the Sample According to Rural & Urban Settings and the Type of School

Sl No	Sample Units	Rural			Urban			Total
		Govt.	Aided	Unaided	Govt.	Aided	Unaided	
1	Head Teachers	44	18	10	5	7	11	95
2	Teachers	203	91	47	23	39	53	456
3	Parents	216	89	52	25	36	56	474
4	Children	651	281	151	74	105	165	1427
Total		1114	479	260	127	187	285	2452

Separate questionnaires were prepared for students, teachers, Head teachers, parents, SDMC members and officers of the education department. These questionnaires were field tested and standardised before administration. The primary data was collected by trained field investigators in the selected 16 blocks under the supervision of 8 members of the Policy Planning Unit.

Focus group discussions were also held in different parts of the state—Bidar, Raichur, Mangalore, Kumta, Karwar, Chitradurga, Bangalore (City) and Anekal. In these discussions, teachers, Head teachers, officers of the department, faculty members of BRCs, CRCs and DIETs participated and gave their feedback. The secondary data was collected from opinions aired in print/electronic media, radio/TV phone-in programmes, and teleconferences the department conducted during the year.

Major Findings of the Study on the Trimester System

1. There was an overall positive feedback on the system. Most of the stakeholders were appreciative of the principles of the system that included
 - (i) Reduction in rote memorisation and volume of text to be studied
 - (ii) Reduced fear of examinations
 - (iii) Continuous assessment of students
 - (iv) Project work
 - (v) Emphasis on non-cognitive subjects such as dance, drama, music, yoga, etc.
2. Nearly 80% of the teachers opined that the system was either excellent or good and about 20% of the teachers were of the opinion that the system was satisfactory.
3. Nearly 78% of Head teachers opined that the system was either excellent or good and another 12% of them responded saying that the system was operational at satisfactory level.
4. Slightly more than 85% of teachers reported that they were teaching life skills and value-based education. Classroom transactions for Part B of curriculum included extending support and guidance to children in specified areas during school working hours.
5. Nearly 65% of Head teachers reported that the teachers could not conduct action research due to lack of clarity. Capacity building of the teachers to take up the same was required to keep the system moving forward.
6. Selected teachers were asked about the training needs for evaluation techniques and tools; nearly 86.2% of them responded saying that they required training.
7. When parents were enquired about their awareness levels of the system, 87.3% of them were found to understand it. Among them, 53% came to know about the system from their children, 21% from media and the remaining 26% had been oriented about it by the school management.
8. Slightly more than 56% of the parents acknowledged that the system of grading was appropriate and another 25.8% of them were of the opinion that the system was inappropriate as it included the highly skilled and competitive children in the same grade.

9. It was found that parents who were not inclined to the grading system were those who believed that it had no scope for students who might score 95 to 98%. Since all children scoring between 75 and 100% were grouped under 'A' grade, it was a disadvantage for the top scorers.
10. Nearly 78% of parents said that they supported their children in project work.
11. Nearly 95% of children knew about the system and had completed two trimesters by the time they were interviewed. In fact, many children wanted to know why it was not extended to X standard.
12. About 95% of the students were given project work and could complete it successfully. Help to accomplish the project work largely came from the teachers (77%), another 23.4 % took help from the parents and the remaining children completed the project work either by taking help from peer groups or did it on their own.
13. Children were interested in the system and participated enthusiastically in the process to complete project work. Their interest levels could be understood through their active and lively participation in the system.
14. 78.7% knew that the system had scope only to grade child performance in terms of A, B+, B, C+ and C rather than providing ranks in ascending order.
15. When asked about the usefulness of Sourabha, 55.7% of the teachers found it to be useful as reference material. As a result, further 21% of the teachers (not trained in Sourabha) used Sourabha to draw insights about the system and implemented it during the academic year 2004–05.
16. Nearly 86% of teachers from rural and urban areas had conducted bridge courses in the month of June to provide specific competencies and fill the identified gaps.
17. 99.3% of teachers prepared question papers for the trimester at the school level. Some teachers received question papers from the district association. It was interesting to note that no teacher from aided and unaided schools reported that he/she got the question paper prepared elsewhere.

The following were the conclusions drawn from the feedback study.

1. Sourabha (a guide to the trimester system) was a self-explanatory reference material for teachers to understand the spirit of the system and implement it.
2. A majority of the teachers had understood the system in its true sense and were working to implement it effectively without losing quality of classroom transactions. The Head teachers were aware of the system and were able to sensitise the SDMC members, the parents and the community at large.
3. Parents, including those who were either neo literate or illiterate, coming both from rural and urban areas, were aware of the system and were able to help or support children in project work.
4. The teachers from government, aided and unaided schools were in need of comprehensive training for implementing the system.
5. Some more sensitisation of parents and the SDMC members at the school level was needed. The system was able to create the required environment for effective implementation.
6. Though there were variations in perceptions of parents from rural and urban areas, they were not wide enough to differentiate on the grounds of literacy or educational levels.
7. There was an overall positive feedback on the system. Most of the different stakeholders—Head teachers, teachers, students and parents—were appreciative of the principles of the system.
8. There were areas for some fresh thinking / revision.
 - a. Academically bright students and their parents feared de-motivation due to single grade given for achievement from 75% to 100%.
 - b. Teaching of non-cognitive subjects needed to be further strengthened. Either new teachers with required skills had to be made available, or existing teacher capacities had to be strengthened.
 - c. Maintenance of records for the trimester system by teachers needed some refining to reduce load.
 - d. Splitting the portions of syllabi to make load in each trimester roughly equal was also needed.

9. Even those stakeholders who had some reservations agreed that it would take a few years for the system to stabilise at all levels. It needed to be strengthened.
10. The very spirit of the system through non-cognitive areas and project work needed to be more fully understood by some teachers and Head teachers, so that the benefits could be fully realised.

The department constituted a committee of educationists and classroom teachers. The committee deliberated on these recommendations and drew up modified guidelines for the trimester system. These were introduced from the academic year 2005–06.

Private Candidates

Formerly VII standard was the last year of the elementary education cycle and VII standard examination was a district level public examination. There was provision for the private candidates to directly sit for this examination subject to satisfying the age criteria.

With the public examination for the VII standard being abolished and introduction of the trimester system, it was necessary to provide sufficient opportunities to private candidates to enter the education system at all levels. Otherwise, older and willing children would be denied the opportunity.

The most important objective of all the departmental programmes is to make the child attend school. In the event the child is unable to attend school due to various reasons, he/she has to be registered in the nearest upper primary school as a private candidate and take all the three trimester examinations with other children. These private candidates are to be encouraged to attend school as much as possible though they may be irregular.

In the trimester system there was sufficient scope for further improvement depending on its performance over the next few years. It was felt that the system had to be evaluated at the end of every year and necessary improvements made depending on the feedback obtained from the evaluation reports.

The Semester Scheme

There were frequent representations from a section of the teachers to reduce the number of evaluations in the trimester system from three to two. The legislators also exerted pressure on the government to change the system into the Semester System. As a result, the government in its order dated 4 July 2007 directed the introduction of the semester system from the year 2007–08 for V to IX standards. Accordingly, DSERT formulated the guidelines and issued them to all the schools in the state. The salient features of the semester system are

1. The terms for the semesters for 2007–08 were notified as follows:
I Semester—01–06–2007 to 09–10–2007
II Semester—30–10–2007 to 10–4–2008
2. As a result, the mid-term/ summer holidays were also changed
Mid-Term holidays—10–10–2007 to 29–10–2007
Summer Holidays—11–04–2008 to 29–05–2008
3. The period of remedial teaching/ bridge courses was limited to the first two weeks of the month of June.
4. The portions remaining incomplete in the first semester due to unforeseen circumstances can be carried over to the second semester.
5. One test (end of July) is to be conducted in the first semester and another (end of December) in the second, apart from the semester examinations. But marks obtained in these tests are not counted for promotions.
6. Remedial teaching has to be carried out for students getting C grade in the first semester evaluation.

7. The project work has to be distributed to students group-wise, one in each semester, as follows:
First Semester—Language (Either First/ Second/Third)
Second Semester—Science/Social Subjects/ Mathematics
8. For promotion, the grades obtained in both the semester examinations are taken into consideration. The student should have secured minimum C+ in all the subjects in Part A and B grade in all the subjects in Part B. A minimum attendance of 75% should be maintained by the student for promotion.
9. If the student does not attend the first semester examination, then a re-examination is conducted in November. If the student is absent for the II semester examination, then a re-examination is conducted in June and results are declared based on the grades obtained in it.
10. The DSERT has reissued the progress card based on the modifications incorporated in the semester scheme.

X Standard Public Examination Reforms

The expert group (led by Dr T K Jayalakshmi of R V Educational Consortium, Bangalore), which was constituted to look into the examination reforms for the X standard public examination, concluded that conducting a public examination at the end of every trimester was not practically viable and hence suggested introduction of competency based and objective type question papers for the public examination.

Even after X standard, both years of PUC have annual examination formats. Moreover, the child who enters X standard has sufficiently matured to take on the annual system. Hence, it was felt that the annual format may be retained for the X standard public examination with some suitable modifications.

Earlier, as a preliminary step to examination reforms, a new type of competency based question paper was field tested in 48 secondary schools in 8 districts covering 17,883 children in 2003 and again in 20 districts in VIII standard annual examination of 2004 covering 51 secondary schools and 5495 children. The results of these field tests indicated that.

1. The students showed interest in the new format of the question paper. Their performance was definitely better when compared to their performance in the older format.
2. The average performance was 40–80 % in Part A (objective questions) whereas it was only 15–48 % in Part B (short and long answer questions).
3. There were no significant variations either due to gender, government or private schools or, rural and urban schools.
4. The new format encouraged the students to understand the concepts better rather than cram the content.
5. This format (Part A) could easily be converted to OMR format which would further help in speedy declaration of results.
6. Malpractices were reduced as scope for copying came down.

Based upon results obtained from this pilot study, the format of the examination for the X standard was finalised by this working group. Each question paper was to contain two parts in the X standard public examination commencing from March 2006. The first part would consist of objective type questions and the second part, competency based questions which would test the analytical ability, problem solving, expression and other important abilities and skills of the child.

The distribution of marks between Part A and Part B in each question paper was as follows:

In languages—Part A : 50 %, Part B : 50 % of the marks

In core subjects—Part A : 60%, Part B : 40% of the marks

The model of such a type of question paper was introduced for the III trimester examination of the IX standard in March 2005 to familiarise the teachers and students with it as it would be introduced in X standard public examination of March 2006.

The improvement in results was visibly significant—from 55.1% in 2003, it shot up to 71.0% in 2006. (Please refer Table SE 16).

The composition of the question papers was again changed for the March 2008 examination (based upon feedback obtained from classroom teachers) as follows:

I and III languages—Part A : 40 marks and Part B : 60 marks

II language—Part A : 35 marks and Part B : 65 marks

Core Subjects—Part A : 60 marks and Part B : 40 marks

Annexure V

The Edusat Project

ISRO launched an exclusive satellite for educational services (GSAT-3 satellite named as EDUSAT) in the second half of 2004. The EDUSAT pilot project was utilised to demonstrate the concept of multicasting interactive multimedia for the educational sector and augment distance education capabilities in the country.

EDUSAT was specially configured to have multiple beams covering different regions of India—5 Ku band transponders with spot beams covering northern, north eastern, eastern, southern and western regions of the country, a Ku band transponder with its footprint covering the Indian mainland region, and 6 C-band transponders with their footprints covering the entire country.

Space based connectivity through EDUSAT system was primarily meant for school, college and higher levels of education and non formal education. In Karnataka, VTU and DSERT were the main beneficiaries of the pilot project under the first phase. Under the VTU project all engineering colleges of VTU were networked with one hundred nodes.

ISRO established the uplink facility at DSERT, Bangalore. The uplink facility has a 2.4 meter antenna that has data rate upto 2 mbps. Simultaneously, both the DSERT and VTU developed separate studio facilities in the DSERT premises.

The live/recorded lectures are received at classrooms of engineering colleges in two channels: VSAT Channel and DTH channel. The students can interact with subject experts at the studio either through a voice link via satellite or phone/fax/SMS.

Advantages of Satellite Based Distance Education

The major advantages of this distance education mode are

- Simultaneous delivery of lecture sessions/video lessons to a large number of geographically dispersed people in the shortest possible time;
- Uniformity and quality of the lesson/content;
- Access to best teachers/subject experts;
- Repeatability of delivery of video/lecture sessions;
- Capability to share the same network by different user groups;
- Cost-effectiveness and economies in travel, logistics and replication of teaching infrastructure;
- Minimal transmission loss.

The Engineering College (VTU) Project

VTU was the first university in the country to have networked all its affiliated colleges across the state under the EDUSAT project. This project sought to wipe out disparities in quality between the various educational institutions by addressing key issues of access, interactivity, cost-effectiveness and consistency of information to students.

It focused on the following areas in this project:

- Collect, finetune and disseminate content developed by experts drawn from both academia and industry.
- Provide interaction/guidance/feedback tools to learners and act as facilitator between experts and students.
- Supplement the conventional system of training and education and bring uniformity in technical education.
- Provide an on-line examination platform.

The EDUSAT engineering pilot project in Karnataka was kicked off on 28 January 2004. Using the first INSAT-3B satellite, VTU transmitted 135 live sessions between September and December 2004. Then, through the EDUSAT satellite, it transmitted 400 live sessions between March and June 2005.

The transmission of live sessions has now become a regular feature and become an integral part of the academic calendar of the engineering colleges. Through this mode, one subject expert can simultaneously teach hundreds of students in multiple locations across a vast geographical area.

The Network

The teaching end consists of a studio (which originates live or recorded lectures) at DSERT, which is linked to the uplink earth station. The video/audio signals are transmitted to the satellite from where they are beamed back to earth covering a large geographical area. The signals are received at classrooms of the engineering colleges.

There are 2 types of classrooms—interactive and non interactive. In case of interactive classroom, the student can interact with the subject expert at the teaching end through a voice link via satellite (64 kbps audio return channel). The question and the subject expert's response to the question can be heard in all the classrooms.

The non interactive classroom has "Receive only" facility and the students can interact with the subject expert via telephone/mobile/internet. In this case, the subject expert repeats the question to let others know the question and then answers it. There are 100 classrooms (50 interactive and 50 non interactive) spread across 100 engineering colleges in the state.

On an average, 8 live sessions of one hour each are transmitted daily. The pedagogy includes

- Full semester programme
- Supplementary programme
- Technology specific classes
- CXO (CEO/CFO/COO) speaks programmes
- Soft skills classes
- Examination revision service
- Entrepreneurship development classes

CXO Speaks

The CEOs, COOs, CFOs and other top industry executives talk to students every Saturday from the VTU studio. The objective of this initiative is to provide awareness and understanding of industry trends, requirements and critical success factors to students. VTU has made efforts to conduct a series of programmes with companies like Infosys, IBM and Microsoft that highlight various facets, technologies and trends relevant to the IT industry.

Edusat – Primary Education Project

The Pilot Phase

DSERT, in collaboration with ISRO, embarked on the EDUSAT project from 2004–05, to broadcast quality lessons in curricular and non-curricular areas for elementary school children (of the backward Chamarajanagar district) on a pilot basis. It was also proposed to orient teachers, parents, and SDMC members so as to enhance the quality of school education.

885 Direct Reception Systems (DRS) were installed in all the primary schools of Chamarajanagar district and Kenchenahalli Hobli of HD Kote block (Mysore district) by ISRO. The DRS consisted of a Ku band dish antenna and a 29" television receiver. After the successful completion of the pilot phase, ISRO installed receiving equipment in another 885 primary schools in Gulbarga—another backward district. The video lessons are broadcast twice every day from DSERT.

Teacher Training

Satellite receiving stations in Ku band were also set up in the 20 DIETs and 202 BRCs through funding from SSA. This facilitated teacher training through video and distance modes with interaction made through phone/fax. In this mode a large number of teachers can be trained at a low cost and in record time from a central location. It also reduces the transmission loss in our training programmes.

Objectives of the Project:

The proposed pilot project was intended to achieve the following objectives.

A. General Objectives

- To bring quality improvement in classroom transaction;
- To make learning interesting and motivating;
- To give students access to the best teachers;
- To ensure that hard spots are easily understood by the students.

B. Specific Objectives:

- To provide online support to teachers in handling difficult concepts;
- To create access to competent teachers and appropriate materials for all learners;
- To develop desired learner competencies and skills in children of III to VII and VIII to X standards with respect to major concepts (hard spots) in (a) Mathematics, (b) Science, (c) Social Studies, and (d) Kannada and (e) English;
- To provide necessary inputs in non curricular areas for the overall development of children;
- To provide academic support to teachers in handling different concepts covered in curricular areas;
- To encourage teachers to develop and use teaching learning materials appropriate to the different concepts being taught in the classroom;
- To orient the SDMC members about the need for monitoring the efforts of teachers and parents in improving the quality of primary education;
- To bring awareness among community members to supplement the efforts of teachers by providing academic support to children in their respective villages/wards and thus contribute to quality of primary education;
- To enable teachers to get quality guidance from specialists in the field.

C. Curricular Objectives

- To develop the required competencies in languages and core subjects in children;

- In primary classes and in MG situations, the teacher can use the satellite lessons to engage one class while physically teaching another class;
- In large classes, satellite TV can actually take the place of a good teacher.

D. Specific Objectives (Teacher Training):

- To provide orientation training to the faculty of DIETS/BRCs and CRCs in the area of pedagogy and innovative methods of teaching;
- To orient these faculty members to monitor implementation of various activities and programs of the department;
- To provide direct training of classroom teachers in the distance mode.

Partners in the Project:

The funding, purchase and installation of the hardware equipment was done by ISRO as it was a pilot project. The development of the software was done by DSERT in collaboration with several academic institutions. DSERT also set up a TV studio and audio studio in its premises which was used for recording and telecasting of the TV programmes. EDC, an NGO, donated some studio equipment for the project. Evaluation of the programme was conducted by Regional Institute of Education, Mysore.

DSERT Initiatives

DSERT took the following steps in respect of preparation of software

1. Core groups of classroom teachers and content experts for each of the subjects of English, Social Studies, Science and Mathematics were formed.
2. These groups identified the hard spots in each class and in each subject.
3. EDC, Washington, an NGO associated with US AID, brought in experts into the field from US and gave orientation (in DSERT) to the script writers.
4. Content and scripts were developed by these script writers and these were scrutinised by subject experts.
5. EDC also developed 60 TV lessons for primary classes (on its own, in collaboration with DSERT), and tried out these lessons through CDs (TV/VCD) supplied to rural schools in two blocks—Deodurga and Surapur of North East Karnataka.
6. The studio at DSERT was completed and inaugurated on 22 December 2003. The department provided soundproof and air-conditioned audio and video recording facilities, control and editing rooms along with power backup. The studio is being used both for production of TV films and for direct broadcasts of lessons as well as teacher training under the Edusat project.
7. Applications were called for empanelment of film producers. Among those who had applied, 19 were short-listed and given scripts for producing video films.
8. The task of producing English video lessons was entrusted to Regional Institute of English, Bangalore.
9. A committee consisting of the following persons was constituted as the technical committee to prescribe standards and monitor the quality of video films produced. This committee interacted with the film producers, approved the 'video shooting scripts', evaluated them and finally approved the films produced.
10. For every trimester DSERT brings out a schedule of the classroom broadcasts and a teachers' hand-book containing the following salient points on every video lesson:
 - (i) Objectives of the lesson
 - (ii) Objectives of the video lesson
 - (iii) The content being covered in the video lesson

- (iv) Pre broadcast activities
 - (v) The TV lesson
 - (vi) Post broadcast activities and evaluation
11. The teachers' handbook is given to every school well in advance so that the teacher synchronises the classroom with the broadcast of the video lesson.

There is a proposal to extend this programme to other districts in the future.

Statistical Tables

STATISTICAL TABLES

1. General Tables
2. Elementary Education Tables
3. Secondary Education Tables
4. Pre University Education Tables
5. Collegiate Education Tables
6. Technical Education Tables
7. Adult Education Tables
8. Cadre Strengths
9. Roster System in Reservations

State	Population	Area	Rank	CDI	Rank
Kerala	33,000,000	10,000	1	0.750	1
Malaysia	15,000,000	10,000	2	0.690	2
Tamil Nadu	10,000,000	10,000	3	0.650	3
Goa	5,000,000	10,000	4	0.630	4
Orissa	4,000,000	10,000	5	0.610	5
Karnataka	3,000,000	10,000	6	0.590	6
India	2,000,000	10,000	7	0.570	7
Sumatra	1,000,000	10,000	8	0.550	8
Java	1,000,000	10,000	9	0.530	9
Sumatra	1,000,000	10,000	10	0.510	10
Java	1,000,000	10,000	11	0.490	11
Sumatra	1,000,000	10,000	12	0.470	12
Java	1,000,000	10,000	13	0.450	13
Sumatra	1,000,000	10,000	14	0.430	14
Java	1,000,000	10,000	15	0.410	15
Sumatra	1,000,000	10,000	16	0.390	16
Java	1,000,000	10,000	17	0.370	17
Sumatra	1,000,000	10,000	18	0.350	18
Java	1,000,000	10,000	19	0.330	19
Sumatra	1,000,000	10,000	20	0.310	20
Java	1,000,000	10,000	21	0.290	21
Sumatra	1,000,000	10,000	22	0.270	22
Java	1,000,000	10,000	23	0.250	23
Sumatra	1,000,000	10,000	24	0.230	24
Java	1,000,000	10,000	25	0.210	25
Sumatra	1,000,000	10,000	26	0.190	26
Java	1,000,000	10,000	27	0.170	27
Sumatra	1,000,000	10,000	28	0.150	28
Java	1,000,000	10,000	29	0.130	29
Sumatra	1,000,000	10,000	30	0.110	30
Java	1,000,000	10,000	31	0.090	31
Sumatra	1,000,000	10,000	32	0.070	32
Java	1,000,000	10,000	33	0.050	33
Sumatra	1,000,000	10,000	34	0.030	34
Java	1,000,000	10,000	35	0.010	35

GENERAL TABLES

Table G T 1
Comparison of Some States by HDI and GDI 2001

State	HDI	Rank	GDI	Rank
Kerala	0.746	1	0.724	1
Maharashtra	0.706	2	0.693	2
Tamil Nadu	0.687	3	0.675	4
Punjab	0.679	4	0.676	3
Gujarat	0.655	5	0.642	5
Haryana	0.653	6	0.636	7
Karnataka	0.650	7	0.637	6
India	0.621	—	0.609	—

HDI: Human Development Index

GDI: Gender Development Index

Source: HDR 2005

Table G T 2
Comparison of Some States by Education Index 2001

State	Education Index	Rank
Kerala	0.887	1
Maharashtra	0.796	2
Tamil Nadu	0.764	3
Gujarat	0.726	4
Karnataka	0.712	5
India	0.652	—

Source: HDR 2005

Table G T 3
HDI and GDI by Social Groups in Karnataka 2001

Index	All	SCs	Gap	STs	Gap
HDI	0.650	0.575	0.075	0.539	0.111
GDI	0.639	0.564	0.075	0.527	0.112
Difference Between HDI & GDI	0.011	0.011	—	0.012	—

Source: HDR 2005

Table G T 4
Composition of HDI 2001

District	Indicator						HDI	
	Index	Health Rank	Index	Education Rank	Index	Income Rank	Value	Rank
1 Bagalkot	0.597	27	0.636	22	0.539	12	0.591	22
2 Bangalore (Rural)	0.692	6	0.662	20	0.605	4	0.653	6
3 Bangalore (Urban)	0.705	5	0.887	1	0.666	1	0.753	1
4 Belgaum	0.712	2	0.699	15	0.532	13	0.648	8
5 Bellary	0.685	7	0.618	23	0.549	9	0.617	18
6 Bidar	0.638	17	0.689	17	0.470	26	0.599	21
7 Bijapur	0.627	24	0.642	21	0.499	23	0.589	23
8 Chamarajnagar	0.642	15	0.570	26	0.518	17	0.576	25
9 Chikmagalur	0.637	19	0.742	9	0.563	6	0.647	9
10 Chitradurga	0.660	12	0.704	14	0.517	18	0.627	16
11 Dakshina Kannada	0.707	3	0.823	4	0.636	2	0.722	2
12 Davangere	0.680	8	0.711	13	0.515	19	0.635	12
13 Dharwad	0.615	26	0.758	7	0.553	8	0.642	10
14 Gadag	0.628	23	0.750	8	0.525	15	0.634	13
15 Gulbarga	0.632	20	0.572	25	0.490	25	0.564	26
16 Hassan	0.670	10	0.729	10	0.519	16	0.639	11
17 Haveri	0.620	25	0.699	16	0.491	24	0.603	20
18 Kodagu	0.638	18	0.833	3	0.621	3	0.697	4
19 Kolar	0.653	13	0.713	12	0.508	21	0.625	17
20 Koppal	0.642	16	0.576	24	0.529	14	0.582	24
21 Mandya	0.632	21	0.682	18	0.513	20	0.609	19
22 Mysore	0.663	11	0.669	19	0.561	7	0.631	14
23 Raichur	0.648	14	0.524	27	0.469	27	0.547	27
24 Shimoga	0.707	4	0.766	6	0.547	10	0.673	5
25 Tumkur	0.672	9	0.714	11	0.505	22	0.630	15
26 Udupi	0.713	1	0.842	2	0.588	5	0.714	3
27 Uttara Kannada	0.632	22	0.781	5	0.546	11	0.653	7
Karnataka	0.680		0.712		0.559		0.650	

Source: HDR 2005

Table G T 5
Backward Blocks in Karnataka

Area	Most Backward	More Backward	Backward	Total
Hyderabad Karnataka	21	5	2	28
Bombay Karnataka	5	12	14	31
Southern Karnataka	13	23	19	55
Total	39	40	35	114

Source: Annexure 6.4, Report of HPCFRRI,
(Dr Nanjundappa's Committee report 2002)

Table G T 6
Teacher Absence & Teaching Activity in Schools

State	Teacher Absence Percentage	Non Teaching Activity – % of Observations
Karnataka	21.70	44.00
Maharashtra	14.60	40.70
Gujarat	17.00	43.10
Madhya Pradesh	17.60	48.90
Kerala	21.20	43.50
Tamil Nadu	21.30	50.40
Andhra Pradesh	25.30	57.00
West Bengal	24.70	53.90

Source: World Bank Survey 2004

Table G T 7
Mean Years of Schooling

Category	No. of Years
All children	4.003
SC children	4.235
ST children	4.166
Non SC/ST children	4.458

Source: Directorate of Economics & Statistics, 2004A

Table G T 8
State Expenditure on Education

Years	In Crores	As % of State Budget	As % of State GSDP
1960-61	12.79	11.61	1.60
1970-71	53.78	17.64	2.48
1980-81	167.78	15.73	2.70
1990-91	759.54	16.42	3.25
1999-00	2955.00	16.58	3.20
2006-07	5103.27	16.73	3.21

Source: Annual Financial Statements, Finance Department

Table G T 9
Growth of Private Aided Institutions in Karnataka

Year	Aided	Unaided	Total
1946 - 47	24	16	40
1950 - 51	65	10	75
1955 - 56	76	16	92
1956 - 57	266	20	286
1960 - 61	424	37	461
1965 - 66	703	296	999
1970 - 71	1137	203	1340
1971 - 72	1212	137	1349

Source: Twenty Five Years of Education in Mysore State

Table G T 10
Pay Scales of Teachers Prior to 1957

The pay scales of teachers were being revised periodically along with general revision of pay scales in the state. Pay scales of primary teachers prior to 1957 were

1. Trained Teachers 30 - 1.50 - 45 - 55
2. Untrained teachers 25 - 1 - 30 - 45
3. Undergraduate teachers 40 - 2 - 50 - EB - 3 - 80

Table G T 11
Pay Scales of Teachers after 1957

Qualifications	1957	1960	1970
SSLC Trained	50-100	80-150	120-240
SSLC Untrained	50-100	80-150	100-220
Non SSLC Trained	40-80	70-110	90-200
Non SSLC Untrained	40-60	65-90	80-145
Graduates & Language teachers	75-200* 150-250 (Promotional Grade)	130 - 250^	175 - 450** 130 - 290^^
Head Masters of High Schools	200-400	250 - 500	275 - 550# 300 - 700##

* Trained teachers were started on 85

^ Untrained teachers did not get increments till they were trained

** Trained graduates

^^ Untrained graduates

Head Masters Grade II

Head Masters Grade I

• Postgraduates were given four advance increments

Source: Twenty Five Years of Education in Karnataka

Table G T 12
Pay Scales of Teaching Staff in Collegiate Education Sector

Post	1957	1961	1970
Professor 1	400-820	400-900	500-1,000
Professor 2	700-1,000	600-1,000	1,000-1,500
Readers 1	250-500	300-600	400-950
Readers 2	300-900	-	-
Lecturers	200-250	230-500	300-700
Demonstrator	100-180	150-300	200-450 250-500

Source: Twenty Five Years of Education in Karnataka

Table G T 13
Pay Scales of Teachers in Schools and Colleges 2007

	Level	Designation	Pay Scales
1.	Primary	Head Teacher (Hr. Grade)	8825-16000
		Head Teacher	8000-14800
		Asst. Teacher	7275-13350
			6250-12000
2.	Secondary	Head Teacher	11400-21600
		Graduate Asst. Teacher (Gr. I)	10800-20025
		Graduate Asst. Teacher (Gr. II)	8825-16000
		Physical Education Teacher	8000-14800
3.	Pre University	Lecturer	11400-21600
	Lecturer (Senior Scale)		12000-22650
	Lecturer (Selection Grade)		14050-25050
4.	Higher Education*	Lecturer	8000-13,500
	(*UGC Scales)	Lecturer (Senior Scale)	10,000-15200
	from	Reader/Assistant Professor	12,000-18300
	1- 1- 1996	Professor	16,400-22,400

N. B: Besides basic pay, there are other allowances such as Dearness Allowances/ House Rent Allowance which are revised from time to time. UGC scales are revised once in 10 years.

Source: Karnataka Revised Pay Scales 2007: Finance Department

Table G T 14
Growth of Expenditure on Education

The following table shows the growth in expenditure on education during the period 1947-72. The increase in figures for 1956-57 is due to integration of the state.

Year	Expenditure On Education*	Per Capita Expenditure
1947-48	214.97	Rs. 3.00
1955-56	539.36	4.50
1956-57	1073.96	5.00
1960-61	1769.95	7.51
1965-66	3394.72	12.85
1970-71	5272.25	18.01
1971-72	5669.89	18.92

*In lakhs

Source: Twenty Five Years of Education in Karnataka

ELEMENTARY EDUCATION TABLES

Table EE 1

Education Institutions in Karnataka—Bird's-eye View

<i>Institutions</i>	<i>Govt.</i>	<i>Aided</i>	<i>Unaided</i>	<i>Others*</i>	<i>Total</i>
LPS (1-5)	24,547	326	3,243	383	28,499
HPS (1-7)	19,807	2,173	5,468	401	27,849
Total (Primary)	44,354	2,499	8,711	784	56,348
High Schools (8-10)	3,452	2,633	4,133	319	10,537
PUC (XI-XII)	856	531	1,352	0	2,739
Vocational Courses	197	341	10	0	548
Degree Colleges	182	299	561	0	1,042
Engineering Colleges	46	58	208	0	312

* Institutions run by other departments—social welfare and local bodies

Source: EMIS 2006 - 07

Table EE 2

Historical Growth in Enrolment in Elementary Education
1986-2006

<i>Classes</i>	<i>86-87</i>	<i>88-89</i>	<i>90-91</i>	<i>92-93</i>	<i>95-96</i>	<i>98-99</i>	<i>2000-01</i>	<i>2005-06</i>
I-IV	42.52	48.02	48.31	51.39	53.54	54.45	55.67	57.25
V-VII	16.53	17.79	21.31	23.51	26.13	29.29	30.77	29.96
Total	59.05	65.81	69.62	74.90	79.67	83.74	86.44	87.21

Figures in lakhs

Source: Sub Sector Study and Annual Reports

Table EE 3

Growth in Primary Schools (I to VII standards)

<i>Schools</i>	<i>92 - 93</i>	<i>95 - 96</i>	<i>98 - 99</i>	<i>2000 - 01</i>	<i>2006 - 07</i>
LPS	23,383	23,447	23,226	22,303	28,499
HPS	17,157	19,032	24,909	27,611	27,849
Total	40,540	42,479	48,135	49,914	56,348

Figures in lakhs

Source: Sub Sector Study and Annual Reports

Table EE 4
Decadal Growth in Elementary Education Sector

Year	Primary Schools	Enrolment In lakhs	Teachers In lakhs	PTR
1950-51	10,184	6.35	0.21	1:30
1960-61	27,050	24.46	0.73	1:33
1970-71	32,630	39.24	0.96	1:40
1980-81	35,116	49.86	1.12	1:44
1990-91	39,857	69.62	1.40	1:49
2000-01	49,612	86.44	2.10	1:41

Source: Department of Public Instruction

Table EE 5
Increase in Schools, Enrolment, and Teachers

	1960-61	1995-96	2000-01	2006-07
1. Primary Schools				
Government	16044	36945	42968	44,354
Private	11006	5534	6644	11,994
Total	27050	42479	49612	56,348
2. No. of students (I-IV)*		53.60	55.67	57.25
No. of students (I-VII)*	24.46	79.69	86.67	87.21
3. No. of teachers	72,569	1,67,795	2,09,837	2,53,576
4. Teacher-Pupil Ratio	1:34	1:48	1:41	1:34

* In lakhs

Source: Department of Public Instruction

Table EE 6
Public Expenditure on Primary Education in Karnataka

Year	Public Exp. on Edn. by State Govt. (in crores)	As % of Total State Exp.	As % of Total Edn. Exp.	Per Student Expenditure
1992-93	1040.05	16.31	50.89	703.10
1995-96	1611.83	16.57	53.24	1082.20
1998-99	2435.23	16.73	53.54	1556.00
2000-01	3467.96	18.37	49.21	2049.00
2006-07	5103.27	13.64	57.31	5851.00

Source: Sub Sector Study and Annual Reports

Table EE 7

Growth in Number of Primary Teachers

	67	78	80	87	90	92	95	98	2000	-06
	-68	-79	-81	-88	-91	-93	-96	-99	2001	-07
Primary Teachers*	0.91	1.06	1.12	1.22	1.36	1.43	1.68	2.04	2.34	2.53

*Figures in lakhs

Source: CPI and EMIS

Table EE 8

Reduction in Dropout Rates in Lower Primary Schools
(Classes I to IV)

Group	92-93	95-96	98-99	2000-01	2006-07*
Boys	24.89	16.82	14.24	6.28	10.25
Girls	29.44	27.37	12.32	9.27	9.04
Total	27.03	21.82	13.34	7.72	9.87

* Classes I to V

Source: Sub Sector Study and Annual Reports

Table EE 9

Reduction in Dropout Rates in Higher Primary Schools
(Classes I to VII)

Group	92-93	95-96	98-99	2000-01	2003-04	2006-07
Boys	43.84	49.41	38.68	36.85	27.60	14.14
Girls	54.22	53.18	43.27	37.57	30.04	14.36
Total	48.71	51.31	40.83	38.50	29.00	14.25

Source: Sub Sector Study/Annual Reports

Table EE 10

Historical Dropout Rates for Classes I to IV

Sl. No.	Year	Boys	Girls	Total
1	1947-48	65.75	79.25	67.37
2	1950-51	62.08	72.66	68.98
3	1960-61	59.60	67.80	58.00
4	1970-71	50.20	67.20	59.12
5	1980-81	36.60	52.19	43.80
6	1993-94	28.27	33.99	31.01
7	1994-95	23.39	30.31	26.69
8	1995-96	16.82	27.37	21.82
9	1996-97	16.54	23.16	19.69
10	1997-98	16.88	16.10	16.51
11	1998-99	14.24	12.32	13.34
12	1999-00	14.24	11.55	12.93
13	2006-07*	10.25	9.04	9.87

* Classes I to V

Source: Extracts from Departmental Reports

Table EE 11

Overall Achievement in BAS, MAS & TAS of DPEP-2 Districts
(Classes III and IV)

District	Survey	Achievement in Mean %	
		Language	Mathematics
B'lore Rural	BAS	44.18	36.70
	MAS	44.45	38.80
	TAS	56.49	54.80
Bellary	BAS	41.50	25.30
	MAS	32.90	26.92
	TAS	40.60	37.54
Bidar	BAS	39.39	25.35
	MAS	46.32	41.21
	TAS	45.36	35.47
Bijapur	BAS	42.73	25.50
	MAS	32.70	28.30
	TAS	55.43	53.29
Dharwad	BAS	36.80	25.70
	MAS	45.80	35.26
	TAS	67.10	63.80
Gulbarga	BAS	44.10	35.89
	MAS	34.25	27.84
	TAS	48.63	46.24
Mysore	BAS	45.18	43.53
	MAS	34.36	55.55
	TAS	40.26	39.05

Source: DPEP Reports

Table EE 12

**Overall Achievement in BAS, MAS & TAS of DPEP-2 Districts
(Classes I and II)**

District	Survey	Achievement in Mean %	
		Language	Mathematics
Bangalore	BAS	55.35	39.93
	MAS	54.33	66.56
Rural Bellary	TAS	79.92	81.11
	BAS	32.15	31.43
	MAS	46.98	56.07
	TAS	63.98	64.88
Bidar	BAS	34.85	42.29
	MAS	50.37	54.55
	TAS	59.88	63.87
Bijapur	BAS	48.20	45.21
	MAS	46.39	61.11
	TAS	68.60	77.20
Dharwad	BAS	40.35	41.57
	MAS	49.85	64.21
	TAS	79.89	81.72
Gulbarga	BAS	48.27	44.12
	MAS	47.27	50.99
	TAS	68.28	63.80
Mysore	BAS	47.70	60.26
	MAS	58.96	60.26
	TAS	74.21	67.73

Source: DPEP Reports

Table EE 13

**CURRICULUM
Allotment of Weekly Periods in Programme of Work**

Subject	Classes I and II	Classes III and IV	Class V	Classes VI and VII
First Language	13	12	7	7
Second Language	—	—	4	5
Third Language	—	—	4	4
EVS	8	—	—	—
EVS I (Science)	—	5	—	—
EVS II (SS)	—	5	—	—
Mathematics	8	6	6	6
Science	—	—	6	6
Social Science	—	—	6	6
SUPW*	7	5	4	4

Subject	Classes I and II	Classes III and IV	Class V	Classes VI and VII
Physical and Health Edn.	5	5	4	3
Art and Creativity	2	2	2	2
Value Education	1	1	1	1
Remedial Teaching	1	—	1	1
Kannada for Non Kannada students	—	4	—	—
Total Periods	45	45	45	45

* SUPW: Socially Useful Productive Work

Source: Circular DTB / Curriculum/ 1: 2001 - 02, dated 4/4/2002 from DSERT

Table EE 14

Minority Elementary Schools in Karnataka

Medium	Govt.	Aided	Unaided	Total
Urdu	3818	128	178	4124
Tamil	80	80	4	164
Telugu	69	21	16	106
Marathi	930	42	21	993
Malayalam	2	1	1	4
Gujarati	—	1	—	1
Sindhi	1	—	—	1
Total	4900	273	220	5393

Source: Annual Report 2006 - 07

Table EE 15

Teachers in Minority Primary Schools

Medium	Govt.			Aided			Unaided			Total		
	M	F	T	M	F	T	M	F	T	M	F	T
Urdu	4857	10424	15281	233	976	1209	254	1035	1289	5344	12435	17779
Tamil	110	244	354	85	187	272	7	21	28	202	452	654
Telugu	110	128	238	18	29	47	37	12	49	165	169	334
Marathi	2445	2496	4941	282	256	538	118	129	247	2845	2881	5726
Malayalam	02	10	12	01	05	06	03	02	05	06	17	23
Gujarati	—	—	—	01	03	04	—	—	—	01	03	04
Sindhi	—	05	05	—	—	—	—	—	—	—	05	05
Total	7524	13307	20831	620	1456	2076	419	1199	1618	8563	15962	24525

M: Male, F: Female, T: Total

Source: Annual Report 2006 - 07

Table EE 16
Enrolment in Minority Primary Schools

Medium	Govt.			Aided			Unaided			Total		
	M	F	T	M	F	T	M	F	T	M	F	T
Urdu	184896	258442	443338	35955	41526	77481	19060	23256	42316	239911	323224	563135
Tamil	5843	6356	12199	7074	8105	15179	580	707	1287	13497	15168	28665
Telugu	3174	3286	6460	2016	1984	4000	900	732	1632	6090	6002	12092
Marathi	71047	72155	143202	6441	5407	11848	3034	2398	5432	80522	79960	160482
Malayalam	194	172	366	131	105	236	63	59	122	388	336	724
Gujarati	—	—	—	110	110	220	—	—	—	110	110	220
Total	265154	340411	605565	51727	57237	108964	23637	27152	50789	340518	424800	765318

M: Male, F: Female, T: Total

Source: Annual Report 2006 – 07

Table EE 17
Area-wise Availability of School Teachers

	LPS	HPS	HS
Rural	39,673	67799	25260
Urban	5820	46563	20430
Total	45493	114362	45690

Source: VI All India Education Survey

Table EE 18
Multi Grade Teaching in Lower Primary Schools in Karnataka (Classes I to IV)

Category	All Schools		Multi Grade Schools		Comparison	
	Number	Enrolment	Number	Enrolment	Number (%)	Enrolment (%)
Aided	223	36,709	119	11,868	53.36	32.33
Government	18,761	8,70,110	18,193	7,94,597	96.97	91.32
Unaided	1,102	91,996	556	31,853	50.45	34.62
Total	20,086	9,98,815	18,868	8,38,318	93.94	83.93

Source: Sub Sector Study Report on Elementary Education (2001)

Table EE 19

Multi Grade teaching in Higher Primary Schools in Karnataka (Classes I to VII)

Category	All Schools		Multi Grade Schools		Comparison	
	Number	Enrolment	Number	Enrolment	Number (%)	Enrolment (%)
Aided	2005	759742	753	192521	37.55	25.34
Government	16329	4500874	7974	1316575	48.83	29.25
Unaided	3192	903829	991	180610	31.04	19.28
Total	21526	6164445	9718	1689706	45.14	27.41

Source: Sub Sector Study Report on Elementary Education (2001)

Table EE 20

Frequency Distribution of Schools by Number of Teachers

Attendance of Students	Lower Primary Schools I to V		Attendance of Students	Higher Primary Schools I to VII	
	Teachers	% of Schools		Teachers	% of Schools
0-20	1	13.25	0-20	1	0.65
21-60	2	51.10	0-40	2	1.31
61-100	3	21.26	41-70	3	5.60
101-140	4	7.71	71-100	4	8.82
141-200	5	3.92	101-140	5	13.91
		141 - 200	6	18.41	
		201 - 280	7	17.79	

Source: Sub Sector Study Report on Elementary Education (2001)

Table EE 21

Distribution of Elementary Teachers (2005 - 06)

Schools	Primary Teachers	Percentage
Government	1,75,449	71.6%
Aided	15,617	6.4%
Unaided	54,056	22.0%
Total	2,45,122	100.0%

Source: Annual Report 2005-06

Table EE 22

Out-of-School Children and NER

Indicators	2001	2002	2003	2004	2005
Out-of-School Children	10.93%	6.80%	4.08%	2.77%	1.55%
NER	89.07%	93.20%	95.92%	97.23%	98.45%
NER (LPS) as assessed by NIEPA	—	—	—	83.50%	95.58%

Source: Organisation Study 2005—Price Waterhouse Coopers

Table EE 23

Recruitment of Teachers in Government Primary Schools

Year	No. of Teachers	Remarks
1992-93	6,811	
1993-94	6,812	
1994-95	16,863	
1995-96	8,527	
1996-97	17,997	
1997-98	31,010	
1999-00	10,334	
2001-02	12,405	
2002-03	2,094	Backlog posts
2003-04	717	Drawing, P. T., Music, etc.
	5,000	Arts teachers
2004-05	2,966	
2005-06	4,768	

Source: Annual Reports of the Department of Public Instruction

Table EE 24

Sarva Shiksha Abhiyan

Year	Approved	
Amount	Amount Released By GOI/GOK	
2001 - 02	484.420	251.00
to		
2003 - 04		
2004 - 05	435.02	369.30
2005 - 06		432.20

Source: Annual Report 2005-06

Table EE 25

**Criticality of PTR in Learning Achievement
(Learning Guarantee Scheme)**

The average Pupil Teacher Ratio in qualifying lower primary schools is much lower than the non-qualifying (other) lower primary schools.

	No. of Participating lower primary schools	Number of Qualifying Schools	Other Schools
	766	80	686
Average Pupil Teacher Ratio	37.4:1	24:1	39:1

Source: Azim Premji Foundation, Bangalore
S Giridhar and D D Karopady

Table EE 26

Results of Learning Guarantee Scheme 2005 Conducted by APF

- The average scores in language tests across the 4 classes in 2005 were in the range of 59 – 66%
- The average scores in Math tests across the 4 classes in 2005 was in the range of 53 – 63%

Kannada	Average achievement	Maths	Average Achievement
Class 1	59.56	Class 1	63.03
Class 2	61.72	Class 2	61.48
Class 3	58.53	Class 3	52.74
Class 4	66.21	Class 4	55.21

- The scores of 52% of children were greater than 60%
- The scores of 62% of the children showed average achievement level of 50% or more

Source: APF

Table EE 27

**Mono Grade vs Multi Grade Performance in
Learning Guarantee Scheme 2005**

PTR Band	0-10	10-20	20-30	30-40	40-50	>50
Number of participating mono grade schools	1	6	29	25	11	6
Number of qualifying mono grade schools	0	0	4	2	0	0
% of mono grade qualifiers	0	0	13.8%	8%	0	0
Number of multi grade schools	8	86	188	201	94	111
Number of qualifying multi grade schools	3	25	26	16	3	1
% of multi grade qualifiers	37.5%	29.1%	13.8%	8%	3.2%	0.9%

Source: S Giridhar and D D Karopady, Azim Premji Foundation, Bangalore

Table EE 28

Elementary Education Indicators (2005)

Indicator	Boys	Girls	Total
GER	108.62	107.12	107.87
NER	97.02	96.36	96.69
Dropout Rate (I to VII)	24.73	24.59	24.72
Transition Rate	97.89	96.55	97.22
Out-of-School Children	80,737	80,773	1,61,510
Attendance Rate	NA	NA	NA
Completion Rate	NA	NA	NA

NA: Not Available

Source: MHRD – Fact sheet – Karnataka

Table EE 29

Indicators of Quality (Learning Guarantee Scheme)

Infrastructure Indicators that do not make a difference

Bus reaches within 0.5 kms of school
 Pucca building
 Aanganwadi on premises
 Compound wall
 Avg. number of classrooms
 Electricity Playground

Teacher Related Indicators that do not make a difference

Gender
 Caste
 Age
 Average age (yrs)
 Qualifications
 Married or otherwise
 Live in the same village

School Practice Related Indicators that do not make a difference

Up-to-date student and teacher register
 Multi grade teaching involved
 Average no. of working teachers
 School with shortage of teachers
 School with temp teachers

Infrastructure Indicators that make a difference
(significant or directional)

Drinking water
 Usable toilets for children
 Separate teachers' toilets

Teacher Related Indicators that make a difference

Avg. experience in this school (yrs)
 Average total experience (yrs)

School Practice Related Indicators that make a difference

TLM in classrooms
 Good school appearance
 Head teacher present / absent
 School with shortage of teachers
 All teachers present
 Focus on enrolment and attendance
 Extra classes
 Orientation on exams
 Additional reading material

Source: S Giridhar and D D Karopady, Azim Premji Foundation, Bangalore

Table EE 30

Region-wise NER (2005)

Region	Age 6–11 (Classes I to V)			Age 12–13 (Classes VI and VII)		
	Boys	Girls	Total	Boys	Girls	Total
Karnataka	95.97	95.95	95.96	99.53	101.42	100.48
North Karnataka	96.58	96.47	96.52	102.46	104.15	103.30
South Karnataka	90.01	90.06	90.03	91.32	93.25	92.29

Source: EMIS 2004 -05, Children's Census, Karnataka

Table EE 31

Percentage of Out-of-School Children by Social Groups

Category	Percentage of Out-of-School Children		
	Boys	Girls	Total
All	1.47	1.62	1.54
SCs	1.99	2.47	2.22
STs	2.11	2.67	2.42
Muslims	1.30	1.24	1.27

Source: Children's Census - CPI, 2005

Table EE 32

Historical Growth in Enrolment of Boys and Girls

	66–67	77–78	86–87	97–98	2006–07*
Boys	20.8	27.8	33.0	43.2	45.20
Girls	14.3	20.0	26.0	39.0	42.01
Total	35.1	47.8	59.0	82.2	87.21

Figures in lakhs

Source: CPI

*2006–07: Classes I to VIII, All the rest: Classes I to VII

Table EE 33

Access to Elementary School—Block level Status

ONE School Shared by	Blocks in each Division			
	Bangalore	Mysore	Gulbarga	Belgaum
1 Habitation	44%	31%	84%	80%
2 Habitations	56%	47%	16%	6%
3 Habitations	0%	12%	0%	8%
4 Habitations	0%	4%	0%	2%
5 Habitations	0%	2%	0%	2%
6 Habitations	0%	0%	0%	2%
7 Habitations	0%	4%	0%	0%

Source: To Be Report—PWC 2006

Table EE 34

Reasons for Not Attending School by Children

Reasons for Out of School	Impact	Reasons for Out of School	Impact
Household work	16%	Sibling care	5%
Earnings because of Poverty	16%	Gender related issue	3%
Unwillingness of Parents	9%	Tribal life	3%
School is far	5%	School not attractive	1%
Disability	5%	Others (Miscellaneous)	37%

Source: Children's Census 2005 (PWHC)

Table EE 35

Repetition Rate (Class I to VII) – Top 5 Districts

District	Boys	Girls	Overall
Uttara Kannada	25.63%	22.48%	24.09%
Udupi	20.44%	15.42%	18.02%
Dakshin Kannada	19.59%	13.69%	16.72%
Dharwad	14.99%	15.47%	15.22%
Bellary	13.61%	14.85%	14.18%
Karnataka	8.59%	8.09%	8.34%

Source: Annual Report 2004-05, Sarva Shiksha Abhiyan

Table EE 36
LGP - Learning Achievement Results

Description	Gulbarga	Bidar	Raichur	Yadgir	Bijapur	Bagalkot	Bellary	Koppal
Total no. of schools	1,284	935	1,368	872	1,485	1,176	1,230	877
% Participating schools	11.80%	11.90%	13.70%	9.20%	12.70%	13.40%	30.10%	22.60%
% achieved 100%								
Enrolment	84.20%	93.70%	96.30%	95.00%	98.90%	91.70%	96.80%	92.90%
% achieved Enrolment								
& Attendance targets	22.40%	35.10%	40.00%	27.50%	64.40%	63.70%	69.20%	54.50%
% achieved Enrolment,								
Attendance & Learning								
Guarantee targets	5.30%	3.60%	3.70%	5.00%	3.70%	7.00%	7.30%	8.10%

Source: APF Review 2004

Table EE 37
Low Performing Districts (Rural)

Bottom 10 Districts	Reading Competence Amongst V standard Students	Bottom 10 Districts	Maths Competence Amongst V standard Students
Dharwad	24.40%	Belgaum	3.90%
Belgaum	24.50%	Dharwad	8.70%
Haveri	24.60%	Bellary	12.80%
Kolar	27.60%	Chamarajanagar	14.80%
Uttara Kannada	36.60%	Koppal	15.40%
Chamarajanagara	38.70%	Davanagere	15.70%
Chitradurga	41.70%	Mysore	15.90%
Mysore	42.20%	Bidar	16.20%
Raichur	45.40%	Bagalkot	16.70%
Bijapur	45.80%	Gadag	16.80%
State Average	50.60%	State Average	23.80%

Source: Annual Status of Education Report (ASER), 2005

Table EE 38
Dropouts (I to VII standards)

*In Lakhs

Year	Strength* I Standard	Year	Strength* VII Standard	Percentage of Dropouts
1958-59	7.87	1964-65	2.04	74.10
1961-62	10.45	1967-68	2.17	79.20
1965-66	11.44	1971-72	2.61	77.30

Source: Twenty Five Years of Education in Mysore

SECONDARY EDUCATION TABLES

Important indicators pertaining to Karnataka and other southern states as per MHRD report dated 11/7/2006 (for Classes IX to XII) circulated to all states:

Table SE 1

Secondary Education Indicators

Sl.No.	Indicator	Karnataka	All India Average
1	No. of secondary and hr. secondary schools (2002-03) per 100 sq. km.	5	4
2	No. of secondary/hr. sec schools per one lakh population	18	13

Source: MHRD Report 2006

The figures for Karnataka are slightly more than All India Average. In comparison the figures for the neighbouring states are: Andhra (6 and 20), Maharashtra (6 and 18), Tamil Nadu (6 and 13), Kerala (8 and 9).

Table SE 2

Gross Enrolment Ratio (GER)

GER	2001-02	2002-03	2003-04
Karnataka	38.82	37.95	41.66
Kerala	57.17	62.24	48.00
Maharashtra	53.07	53.08	53.86
Tamil Nadu	48.36	55.15	56.85
Andhra Pradesh	34.22	40.12	44.61
All India Average	33.26	37.52	38.89

Source: MHRD Report 2006

Gross Enrolment Ratio (GER) at secondary stage is defined as the percentage of enrolment in secondary stage to the estimated child population in the age group of 14 to 18 years. Enrolment in this stage includes under age and over age children. Karnataka's GER over the three year period shows an increasing trend and figures are above All India Average but much below that of neighbouring states. This shows that at least 60% of children in the age group of 14-18 in Karnataka are outside the secondary school system.

Table SE 3

Gender Parity Index (GPI)

GPI	2001-02	2002-03	2003-04
Karnataka	0.85	0.88	0.94
Kerala	1.10	1.08	1.01
Maharashtra	0.83	0.91	0.93
Tamil Nadu	0.88	0.99	0.98
All India Average	0.73	0.80	0.80

Source: MHRD Report 2006

Gender Parity Index is calculated by dividing Girls' GER by boys' GER at a given level of education. It measures progress towards gender equity in education. When the GPI shows value equal to 1, at any level of education, it shows that there is no gender disparity at that level and learning opportunities are available for girls equal to that boys. Table SE 3 shows the comparative statement of GPI and no. of girls enrolled per 100 boys at secondary stage at All India level and that of selected southern states including that of Karnataka. The figures for Karnataka show an increasing trend. But Karnataka has a long way to go before it reaches the magical figure of 1.

Table SE 4

No. of Girls Enrolled Per Hundred Boys (Classes IX to XII)

	2001-02	2002-03	2003-04
Karnataka	82	81	87
Kerala	107	106	99
Maharashtra	76	78	80
Tamil Nadu	84	95	94
Andhra Pradesh	71	73	75
All India Average	65	70	70

Source: MHRD Report 2006

The figures for Karnataka show an above All India average and increasing trend. But the figures for Kerala and Tamil Nadu are far better in comparison.

Table S E 5
Dropout & Retention Rates for Secondary Classes

<i>I Set</i>	<i>Std</i>	<i>Enrolment I std</i> 1991-92	<i>Enrolment</i>	<i>Dropout</i>	<i>Retention</i>
1998-99	8th std	1465525	625219	57.34	42.66
2000-01	10th std	1465525	475262	67.57	32.43
II Set		1992-93			
1999-2000	8th std	1520835	688662	54.72	45.28
2001-02	10th std	1520835	495262	66.12	33.88
III Set		1993-94			
2000-01	8th std	1530301	704691	53.95	46.05
2002-03	10th std	1530301	575647	62.38	37.62
IV Set		1994-95			
2001-02	8th std	1520627	716853	52.86	47.14
2003-04	10th std	1520627	581921	61.73	38.27
V Set		1995-96			
2002-03	8th std	1419953	687976	51.55	48.45
2004-05	10th std	1419953	547755	61.42	38.58
VI Set		1996-97			
2003-04	8th std	1572835	768210	51.15	48.85
2005-06	10th std	1572835	615655	60.85	39.15

Source: Extracted from Statistics of C P I's Office, Courtesy: Dr Nagendra Prasad PPU

The above table shows that there is steady decline in dropouts (between standards I and X) and steady increase in retention rates over the years. But even as late as 2005-06, the wastage and stagnation levels are around 60%.

Table SE 6
State Budget on Secondary Education

<i>Year</i>	<i>Plan</i>	<i>Non Plan</i>	<i>Total</i>	<i>Percentage of</i> <i>Sec. Edn. *</i>
1985-86	20.35	9990.05	10010.40	28.17
1990-91	2510.12	19639.95	22150.07	29.20
1995-96	8380.94	42292.61	50673.55	31.43
1999-00	7053.75	79608.99	86662.74	28.03
2006-07	19003.27	135064.47	154067.74	30.19

* Percentage of expenditure on secondary education to general education

Source: Budget Papers, Figures in lakhs

Table SE 7

Growth of Secondary Schools—Categorywise

Category	2004-05	2005-06	2006-07	Percentage
Government	3,029	3,335	3,693	35.30
Aided	2,621	2,700	2,633	25.18
Unaided	3,362	3,463	4,133	39.52
Total	9,012	9,498	10,459	100.00

Source: Performance Budget 2007 – 08

Table SE 8

Secondary School Teachers—Categorywise

Category	2006-07	Percentage
Government	29,479	33.52
Aided	22,274	25.32
Unaided	36,201	41.16
Total	87,954	100.00

Source: Performance Budget 2007 – 08

Table SE 9

Enrolment in Secondary Schools

Class	Govt.	Aided	Unaided	Total
8	4.16	2.54	2.03	8.95
9	3.34	2.62	1.95	8.12
10	2.75	2.37	1.73	7.03
Total	10.25	7.53	5.71	24.10

Totals do not tally as "Others" are not included (See Table EE 1)

Figures in lakhs

Source: EMIS 2006 – 07

Table SE 10

Minority Secondary Schools in Karnataka

Schools	Urdu	Tamil	Telugu	Marathi	Total	Percentage
Government	144	5	6	43	198	36.67
Aided	100	11	5	89	205	37.96
Unaided	81	—	4	52	137	25.37
Total	325	16	15	184	540	100.00

Source: Annual Report 2006 – 07

Table SE 11
Teachers in Minority High Schools

Medium	Govt.			Aided			Unaided			Total		
	M	F	T	M	F	T	M	F	T	M	F	T
Urdu	376	426	802	501	402	903	274	296	570	1151	1124	2275
Tamil	24	16	40	35	23	58	02	06	08	61	45	106
Telugu	19	18	37	19	19	38	23	05	28	61	42	103
Marathi	150	148	298	528	367	895	310	165	475	988	680	1668
Total	569	608	1177	1083	811	1894	609	472	1081	2261	1891	4152

M: Male, F: Female, T: Total

Source: Annual Report 2006-07

Table SE 12
Enrolment in Minority High Schools

Medium	Govt.			Aided			Unaided			Total		
	B	G	T	B	G	T	B	G	T	B	G	T
Urdu	8486	16234	24720	12911	20198	33109	2964	5411	8375	24361	41843	66204
Tamil	301	317	618	452	709	1161	103	81	184	856	1107	1963
Telugu	339	386	725	303	374	677	148	178	326	790	938	1728
Marathi	3641	3696	7337	11897	12021	23918	3378	3004	6382	18916	18721	37637
Total	12767	20633	33400	25563	33302	58865	6593	8674	15267	44923	62609	107532

B: Boys, G: Girls, T: Total

Source: MHRD Report 2006

Table SE 13
CURRICULUM
Allotment of Periods to Subjects in Secondary Schools
(Classes VIII-X)

Sl. No.	Subject	No. of Periods Per Week*	No. of Periods for One Year
1.	First Language	6	210
2.	Second Language	5	175
3.	Third Language	4	140
4.	Mathematics	6	210
5.	Science**	6	210
6.	Social Science#	6	210
7.	Work Experience & Creativity	3	105
8.	Physical & Health Education	4	140
Total		40	1400

* Each period is of 45 minutes duration

** Science: Physics, Chemistry, Biology

Social Science: History, Geography, Civics, Economics

First Language: Kannada, English, Hindi, Tamil, Telugu, Marathi, Urdu

Second Language: Kannada, English (not opted as a first language)

Third Language: Kannada, English, Hindi (not opted as I/II language)

Source: Circular DTB/curriculum/1:2001 - 02, dated 4/4/2002

Table SE 14
Decadal Growth in Secondary School Teachers

Year	Secondary Teachers
1950-51	2,515
1960-61	10,634
1970-71	21,400
1980-81	30,297
1990-91	37,344
2000-01	78,888
2006-07	92,287

Source: Departmental Reports

Table SE 15
SSLC Examination Results Over the Years

The following table gives the increase in the number of students appearing for the SSLC Public Examination and the pass percentages of boys and girls over the years.

Year	Boys Appeared	Boys Passed	Boys %	Girls Appeared	Girls Passed	Girls %	Total %
1947	7,347	4,898	48.7	1,097	514	46.8	47.7
1948	8,625	4,452	51.6	1,295	720	55.6	53.6
1951	16,997	8,037	47.2	1,964	916	46.6	47.2
1956	18,213	9,385	51.5	3,605	2,146	59.5	52.9
1957	32,981	14,073	42.7	7,100	3,888	54.8	44.8
1961	44,067	22,026	50.0	10,230	5,117	50.2	50.0
1972	88,951	36,362	40.9	37,469	15,969	42.0	40.0

Source: Twenty Five Years of Education in Mysore State

Table SE 16
SSLC (X Standard) Public Examination Results

<i>Results</i>	1990	1993	1995	1997	2001	2003	2005	2006
Type of School								
Government	45.4	39.8	30.6	32.5	42.5	51.2	58.5	64.8
Private	60.0	56.7	51.5	57.2	56.3	58.6	66.5	74.7
Gender								
Boys	52.3	48.7	42.5	43.2	49.7	52.2	52.6	66.2
Girls	58.4	55.9	48.8	48.3	52.4	58.5	62.5	71.3
Region								
Rural	52.4	46.4	40.5	40.3	47.9	53.7	62.3	71.8
Urban	56.4	56.4	48.8	57.2	55.9	56.4	62.5	69.6
Social Groups								
SC/ST	41.3	40.8	32.5	32.1	36.7	51.3	49.4	62.1
General	57.1	53.6	47.8	48.5	48.1	54.6	66.0	73.6
State Average	54.3	51.4	44.9	45.3	50.9	55.1	62.47	71.0

Source: Karnataka Secondary Education Examination Board

Table SE 17
Growth in Secondary School Teachers by Gender

	60-61	68-69	86-87	93-94	05-06
Male	8544	16398	23222	42455	60,000
Female	2090	4200	7172	16816	30,000
Total	10639	20598	30394	60271	90,000
% of female teachers	19.65	20.39	23.60	27.90	33.00

Source: CPI

Table SE 18

No. of Secondary Schools, Teachers & Student Enrolment, 2005-06

Sl no	District	Schools		Teachers		Students (8-10)	
		Govt.	Aided	Govt.	Aided	Govt.	Aided
1	Bagalakot	122	83	787	2067	18744	12257
2	Bangalore North	44	78	567	645	17854	46740
3	Bangalore Rural	143	87	1207	1340	42785	16076
4	Bangalore South	67	98	876	648	21567	54325
5	Belgaum	82	107	678	226	16452	16452
6	Bellary	127	58	1178	324	37895	11567
7	Bijapur	128	123	745	755	15765	14324
8	Bidar	103	62	1190	567	25769	13245
9	Chamarajanagar	60	34	534	869	21987	7324
10	Chickaballapur	101	27	967	1123	32278	11567
11	Chikkamaglore	94	88	876	1134	21342	6622
12	Chikodi	105	154	567	1012	25154	14325
13	Chitradurga	103	96	789	734	20198	6975
14	Dakshina Kannada	134	95	1298	231	35185	16345
15	Davanagere	143	131	1185	1031	29286	16356
16	Dharwad	68	92	435	908	12245	13245
17	Gadag	63	74	410	422	9876	6645
18	Gulbarga	103	27	1123	432	25678	9234
19	Hassan	210	187	2316	218	40890	13713
20	Haveri	104	97	876	1034	15657	8842
21	Kodagu	58	58	453	612	10987	3245
22	Kolar	105	34	976	912	30278	16456
23	Koppal	159	29	786	170	21345	3694
24	Madhugiri	85	76	675	903	18976	7689
25	Mandya	188	59	1737	923	42578	13804
26	Mysore	186	94	1689	729	50178	24235
27	Raichur	115	21	989	1123	26159	10567
28	Shimoga	148	102	1356	135	34218	14657
29	Tumkur	120	111	987	563	21786	8765
30	Udupi	91	68	879	965	23567	9043
31	Uttara Kannada	95	128	703	645	15589	7282
32	Yadagir	120	21	765	1340	22134	10234
Total		3574	2599	30599	24740	804402	445850

Source: EMIS-2006

COMPUTER EDUCATION IN KARNATAKA

Table SE 19

Coverage of Government Secondary Schools
Under the Computer Education Programme

Programme	Year of Starting	Number of Schools Covered	Project Cost*
1. Mahiti Sindhu Project**	2001-02	1000	200.00
2. Eleventh Finance Commission Project	2003-04	88	11.68
3. Revised Class Project	2003-04	150	17.20
4. ICT @ schools Project	2006-07	480	32.16
Total		1718	261.04

* In crores

** Financed by the state, all other projects are financed by MHRD

Source: Quality Initiatives in Education (2006) DSERT

Table SE 19

Computers Provided to Each School under Mahiti Sindhu Project

Category	Students' Strength	No. of Computers
A	Up to 150	1 server & 5 work stations
B	151-250	1 server & 9 work stations
C	251 and above	1 server & 14 work stations

Source: Quality Initiatives in Education (2006) DSERT

Table SE 21

Highlights of Intel/IMRB Survey 2006

1. States taken up for the survey—Karnataka, Gujarat, Tamil Nadu and West Bengal.
2. Five districts covered in Karnataka for the survey—Uttara Kannada, Mangalore, Udipi, Shimoga and Raichur covering 197 teachers, 50 Principals and 200 students in secondary schools having computer education.
3. Frequency of technology related lessons higher in Karnataka at 86%.
4. Frequency is 100% in Uttara Kannada, 98% in Mangalore and 97% in Udipi.
5. Shimoga (25%) and Raichur (8%) performed poorly in terms of frequency of technology related lessons.
6. Infrastructure and support issues are the major challenges faced in Karnataka.
7. Inadequate access to internet and lesson not fitting well in curriculum are main reasons for not implementing technology based lessons among teachers.
8. High satisfaction among teachers from the programme across districts except Raichur.

PRE UNIVERSITY EDUCATION TABLES

Table PU 1

Growth of Pre University Education in Karnataka

Category	1990-91	1993-94	1996-97	1999-00	2006-07	(%) 2006-07
Government	398	569	713	700	856	29.34
Private Aided	531	531	531	531	531	18.20
Private Unaided	607	689	767	852	1352	46.35
Total	1536	1789	2011	2083	2917*	100.00

* includes 165 bifurcated and 13 corporation institutions

N B: For all years (except 2006 - 07) the figures include Composite, Independent and Degree colleges having P U Sections

Source: Department of Pre University Education & Annual Reports

Table PU 2

Enrolment of Students in Different Types of P U Colleges

I PUC 2006-07

In lakhs

Category	Govt.	Aided	Unaided	Bifurcated	Corporation	Total
Arts	1.25	0.71	0.50	0.18	0.01	2.65
Science	0.20	0.27	0.44	0.35	negligible	1.26
Commerce	0.27	0.26	0.31	0.19	0.01	1.04
Total	1.72	1.24	1.25	0.72	0.02	4.95

Source: Annual Report 2006 - 07

Table PU 3

Distribution of Lecturers and Students in
Different Types of Colleges, 2006-07

Particulars	Govt.	Aided	Unaided	Total
Lecturers	7866	6617	5195	19,678
Percentage	40%	34%	26%	100%
Students*	2.61	3.45	1.77	7.83
Percentage	33%	44%	22%	100%

* in lakhs (I and II PUC)

Source: Department of Pre University Education

Table PU 4

Stream-wise Enrolment in II PUC 2006-07

Stream	Boys	Girls	Total
Arts	99,464	96,566	1,96,030
Science	55,177	43,021	98,198
Commerce	37,204	30,375	67,579
Total	1,91,845	1,69,962	3,61,807

Source: Department of Pre University Education

Table PU 5

Growth in Enrolment and Gender Disparity in I P U C
In lakhs

Year	Boys	Girls	Total	Gender Differential	Gender Disparity Percentage
2001-02	1.84	1.42	3.26	0.42	12.88
2002-03	1.81	1.45	3.26	0.36	11.04
2003-04	2.06	1.71	3.77	0.35	9.28
2004-05	2.25	1.87	4.12	0.38	9.22
2005-06	2.29	1.98	4.27	0.31	7.25

Source: Department of Pre University Education

Table PU 6

Performance of Students in II P U Public Examination

Year	Appeared*	Passed*	Pass Percentage
1976	0.76	0.36	47.50
1979	0.91	0.45	49.20
1981	1.17	0.56	48.20
1991	2.89	1.01	35.16
1993	3.58	1.39	38.83
1995	3.22	1.40	43.56
1997	2.91	1.08	37.08
2000	2.78	1.29	46.48
2003	4.18	1.89	45.19
2005	4.72	2.49	52.77
2006	3.78	2.03	54.37

* Figures in Lakhs

Source: Department of Pre University Education

Table PU 7

II PUC Public Examination Combination wise Results 2006

Combination	Boys			Girls		
	Appeared*	Passed*	%	Appeared*	Passed*	%
Arts	1.08	0.51	47.06	1.00	0.59	58.91
Commerce	0.40	0.23	56.35	0.31	0.23	72.91
Science	0.56	0.26	46.39	0.43	0.22	52.19
Total	2.04	1.00	49.00	1.74	1.04	59.75

* Figures in lakhs

Source: Annual Report

Table PU 8

Performance of Candidates Belonging to Social Groups
II PUC Examination Results 2006

Category	Appeared	Passed	Percentage
Scheduled Castes	56,778	24,849	43.77
Schedule Tribes	18,198	8,261	45.40
Category I	6	3	50.00
Category 2A	56,678	33,538	59.07
Category 2B	29,272	13,882	47.42
Category 3A	44,593	25,450	57.07
Category 3B	62,593	34,909	55.77
General	90,382	53,416	59.01

Source: Annual Report

Table PU 9

Fee Concessions to Girls

Year	Girls
2002-03	69,553
2003-04	72,700
2004-05	73,800
2005-06	92,981
2006-07	1,05,775

NB: The fee concession was introduced for all girls studying in Government institutions from 2002 - 03. The table shows the number of beneficiaries.

Source: Department of P U Education

Table P U 10

Education Levels of Parent (Father) of Students Studying in PUC

Educational Qualification of father	Poor Colleges	Good Colleges
Illiterate	35.00	10.50
Upper Primary School	26.00	14.00
X Std.	28.00	42.00
Degree	8.00	24.50
Postgraduate/Professional	3.00	5.00

Poor Colleges: Securing less than 30% results in II PUC Examination

Good Colleges: Securing more than 70% results in II PUC Examination

Source: (Sample Study)

Sub Sector Study Report on Secondary & P U Education 2001

Table PU 11

Occupation of Parents of Students Studying in PUC

	Poor Colleges	Good Colleges
Unskilled labourer	5	2
Skilled labourer	12	5
Retail Business	10	15
Agriculture	61	39
Professional	16	26
Self Employed	3	5
Any Other	3	8

Poor Colleges: Securing less than 30% Results in II PUC Examination

Good Colleges: Securing more than 70% Results in II PUC Examination

Source: (Sample Study)

Sub Sector Study Report on Secondary & P U Education 2001

Table PU 12

Nature of Duties Done by Students of P U Colleges

	Poor Colleges		Good Colleges	
	Boys	Girls	Boys	Girls
Sibling care	12.70	47.30	—	18.60
Filling water/supply of paper/milk/ and such other odd jobs	52.60	33.60	55.00	34.90
Cooking	—	36.70	—	21.30
Assistance to parents in work/ business	62.60	65.70	53.70	68.70
House cleaning/sales	6.30	17.90	10.20	22.30
Part-time work in private establishments	26.50	15.00	15.00	10.00

Poor Colleges: Securing less than 30% Results in II PUC Examination

Good Colleges: Securing more than 70% Results in II PUC Examination

Source: Sub Sector Study Report on Secondary & P U Education 2001

Table PU 13
Growth in Enrolment in Vocational Courses

Year	81-82	85-86	88-89	91-92	00-01	05-06
Enrolment	2951	5477	5893	16000	44675	52031

Source: Department of Vocational Education & Annual Reports

Table PU 14
Vocational Courses
IV Semester Results 2006

Appeared	Passed	Pass Percentage
24,531	17,142	69.88

Annual Report 2006 - 07

Table PU 15
Minimum and Maximum Workload/Week for lecturers

Lecturers	Minimum Hours	Maximum Hours
Arts/ Commerce/Languages	08	16
Science	Theory 06 Practical 08 Total 14	06 14 20
Mathematics	10	20

Note: Arts combination with 200 students – 6 lecturers required

Each lecturer gets 16 hours workload

In addition, one more lecturer is required for commerce combination

For science combination, minimum 4 additional lecturers are required

Source: Department of Pre University Education

COLLEGIATE EDUCATION TABLES

Table CE 1

Growth of Collegiate Education Institutions 1946-47 to 1970-71

Year	Colleges	Boys	Girls	Total Enrolment	Men Teachers	Women Teachers	Total Teachers
1946-47	4	2,370	276	2,646	492	49	541
1950-51	18	12,006	2,101	14,107	662	68	730
1956-57	45	25,038	4,773	29,811	1,153	167	1,320
1960-61	52	26,371	6,687	33,058	NA	NA	NA
1970-71	174	1,03,548	32,205	1,35,753	4,525	965	5,490

Source: Twenty Five Years of Education in Karnataka

Table CE 2

Growth and Distribution of Government Colleges in Karnataka

University	1990-91	1995-96	2000-01
Bangalore	31	36	39
Mysore	17	22	27
Kuvempu	18	26	27
Mangalore	5	14	15
Karnataka	10	18	19
Gulbarga	18	23	24
Total	99	139	151

Source: Sub Sector Study on Collegiate Education

Table CE 3

Growth and Distribution of Private Aided Colleges in Karnataka

University	1990-91	1995-96	2000-01
Bangalore	61	61	61
Mysore	28	28	28
Kuvempu	27	27	27
Mangalore	35	35	35
Karnatak	98	98	98
Gulbarga	41	41	39
Total	290	290	288

Source: Sub Sector Study on Collegiate Education

Table CE 4

Growth and Distribution of Private Unaided Colleges in Karnataka

University	1990-91	1995-96	2000-01
Bangalore	11	80	179
Mysore	2	31	42
Kuvempu	6	47	57
Mangalore	7	24	32
Karnatak	4	59	106
Gulbarga	12	43	57
Total	42	284	473

Source: Sub Sector Study on Collegiate Education

Table CE 5

Distribution of Non University Colleges in Karnataka 2000-2001

Types of Colleges	Govt. Colleges	Private Aided Colleges	Private Unaided Colleges	Total
Men's colleges	6	6	3	15
Women's colleges	10	42	56	108
Composite colleges	17	164	43	224
Evening colleges	0	12	12	24
Day colleges	151	280	461	892
Minority colleges	0	46	67	113
SC/ST colleges	0	8	61	69
Total	151	292	473	916

Source: Sub Sector Study on Collegiate Education (Totals do not tally as function overlap)

Table CE 6

Enrolment of Students in Different Streams 1999-2000

Type of College	B A	B Sc	B Com	Total
Government	43,71s7	6,137	7,366	57,220
Private Aided	85,735	32,264	54,871	1,72,870
Private Un aided	30,628	5,375	14,590	50,593
Total	1,60,080	43,776	76,827	2,80,683

Source: Sub Sector Study on Collegiate Education

Table CE 7

Students' Strength in Government and Private Colleges

Year	Government Colleges			Private Aided Colleges		
	Men	Women	Total	Men	Women	Total
2001 - 02	33,922	24,477	58,399	79,988	74,810	1,54,798
2003 - 04	39,045	38,234	77,279	1,18,861	1,14,898	2,33,759
2005 - 06	52,363	47,052	99,415	1,18,581	1,05,802	2,24,383
2006 - 07	52,443	67,045	1,19,488	1,10,066	99,605	2,09,671

Source: Annual Report 2006-07

Table CE 8

Staff Strength in Government and Private Aided Colleges in 2006-07

Category	Govt. Colleges	Pvt. Aided Colleges	Total Colleges
Teaching	2,808	6,963	9,771
Non Teaching	2,030	4,442	6,472
Total	4,838	11,405	16,243

Source: Annual Report 2006-07

Table CE 9

Budgetary Allocation 2006-07

Scheme	Plan*	Non Plan*	Total*
Direction & Administration	80.00	449.62	529.62
Government Colleges	1434.04	9671.25	11105.29
Private Aided Colleges	70.00	25555.00	25625.00
Computer Education in Degree Colleges	150.00	—	150.00
College Buildings	900.00	—	900.00
Repayment of HUDCO Loans	353.00	—	353.00
Government College Hostels	—	65.09	65.09
Scholarships	45.00	30.56	75.56

* Figures in lakhs

Source: Annual Report

TECHNICAL EDUCATION TABLES

Table TE 1

Data on Technical Institutions in the State Pertaining to the Year 2006-07

Type of Technical Institution	Engineering Colleges	Polytechnics	JTS	Arts Colleges	Total
University	5	—	—	—	5
Government	—	38	06	—	44
Private Aided	11	44	—	03	58
Private Unaided	107	107	—	—	214
Total	123	189	06	03	321

Source: Annual Report 2006 - 07

Table TE 2

Growth of Engineering Institutions in the State 1946-71

Year	Colleges	Enrolment
1946-47	1	837
1947-48	2	1,046
1955-56	4	2,743
1956-57	5	2,924
1960-61	9	4,768
1970-71	16*	10,223

* Includes S J P Technical Institute

Source: 25 Years of Education in the State of Mysore

Table TE 3

Category wise Growth of Engineering Colleges in the State

Category	1995-96	2000-01	2006-07
Government	6	6	6
Private Aided	11	11	11
Private Unaided	36	65	106
Total	53	82	123

Source: Annual Reports

Table TE 4

Growth of Polytechnics in the State

Category	1995 - 96	1999 - 2000	2006 -07
Government	39	38	38
Private Aided	7	7	44
Private Unaided	137	140	107
Total	183	185	189

Source: Annual Reports

Table TE 5

Growth in Intake in Degree Colleges

Category	1996-97	2000-01
Government	1,368	1,522
Aided	5,305	5,857
Unaided	12,772	22,400

Source: Sub Sector Study on Technical Education

Table TE 6

Growth in Intake in Polytechnics

Category	1996-97	2000-01	2006-07
Government	6,711	7,840	10,026
Aided	2,120	1,967	8,885
Unaided	19,884	25,651	19,125
Total	28,715	35,458	38,036

Source: Annual Reports

ADULT EDUCATION TABLES

Table AE 1

District wise Breakup of Literacy Rate 2001

<i>District</i>	<i>Literacy</i>	<i>Male</i>	<i>Female</i>	<i>Compound Growth Rate 1991-2001</i>
Bagalkot	57.30	70.88	43.56	0.94
Bangalore rural	64.70	73.99	54.99	2.58
Bangalore Urban	82.96	87.92	77.48	0.84
Belgaum	64.21	75.70	52.32	1.94
Bellary	57.40	69.20	45.28	2.26
Bidar	60.94	72.46	48.81	3.05
Bijapur	57.01	69.94	43.47	0.13
Chamarajanagar	50.87	59.03	42.48	2.91
Chikkamagalur	72.20	80.29	64.01	1.69
Chitradurga	64.45	74.66	53.78	2.11
Dakshina Kannada	83.35	89.70	77.21	0.88
Davanagere	67.43	76.37	58.04	1.88
Dharwad	71.61	80.82	61.92	1.33
Gadag	66.11	79.32	52.52	1.70
Gulbarga	50.01	61.77	37.90	2.64
Hassan	68.63	78.37	59.00	1.90
Haveri	67.79	77.61	57.37	1.91
Kodagu	77.99	83.70	72.26	1.33
Kolar	62.84	73.17	52.23	2.22
Koppal	54.10	68.43	39.61	3.53
Mandya	61.05	70.50	51.53	2.40
Mysore	63.48	70.88	55.81	2.24
Raichur	48.81	61.52	35.93	3.58
Shimoga	74.52	82.01	66.88	1.55
Tumkur	67.01	76.78	56.94	2.09
Udupi	81.25	88.23	75.19	0.88
Uttara Kannada	76.60	84.53	68.47	1.39
Karnataka	66.64	76.10	56.87	1.75

Source: HDR 2005

Table AE 2

Historical Difference in Literacy Rates of Gulbarga Division and the State

Year	Karnataka Literacy Rate	Gulbarga Division Literacy Rate	Difference
1961	29.80	16.45	13.35
1971	36.83	21.02	15.81
1981	46.21	26.69	19.52
1991	56.04	41.30	14.74
2001	66.64	54.25	12.39

Source: Census Figures

Table AE 3

Literacy Rates 1961 to 2001

Sex	1961	1971	1981	1991	2001
Male	42.29	48.51	58.73	67.26	76.10
Female	16.70	24.56	33.17	44.34	56.90
Total	29.80	36.83	46.21	56.04	66.64

Source: Census of India 2001

Table AE 4

Literacy Rates of Social Groups

Area		2001		
	Persons	Male	Female	
SCs	Rural	47.25	58.71	35.56
	Urban	69.27	78.32	59.88
	Total	52.87	63.75	41.72
STs	Rural	45.0	57.4	32.4
	Urban	69.1	77.8	59.9
	Total	47.1	59.2	34.8

Source: Census of India 2001

Table CR 1

**Cadre Strength of Officers of
The Department of Public Instruction 2007**

Designation	Posts	Strength
1. Commissioner (IAS)	CPI, Bangalore	1
2. Additional Commissioners (IAS)	Dharwar, Gulbarga	2
3. State Project Director (IAS)	SSA	1
4. Directors	1. Director, Primary Education 2. Director, Secondary Education 3. Director, Examination Board 4. Director, Other Examinations 5. Director, Urdu & Minorities 6. Director, DSERT 7. Director, Addl. CPI, Gulbarga 8. Director, Addl. CPI, Dharwar 9. M.D. Text Book Society 10. Director, SSA	10
5. Joint Directors	1. Joint Director (ADM) 2. Divisional Joint Directors 3. Joint Director (School Edn.) 4. Joint Director (MMS) 5. Joint Director (KSEEB) 6. Joint Directors (SSA) 7. Joint Director (Addl. CPI, Gulbarga) 8. Joint Director (Addl. CPI, Dharwar) 9. Principals of CTEs	18
6. Deputy Directors	1. District DDPIs 2. Principals of DIETs 3. Readers, CTEs 4. DSERT/Text Book Society 5. CPI's Office, Bangalore 6. SSA 7. Addl. CPI, Gulbarga/Dharwar 8. TBF	92
7. Chief Accounts Officer	CPI, Bangalore/SSA/Dharwar/Gulbarga	4
8. Education Officers	1. BEOs of Blocks 2. EOs, DDPI's offices 3. EOs, Addl CPI's office, Gulbarga 4. SADPIs, CPI's office, Bangalore 5. Director, Urdu & Minorities 6. SADPI (Survey Unit) 7. SADPIs (MMS) 8. SADPIs (KSEEB) 9. SADPIs (DSERT)	620

Designation	Posts	Strength
	10. SADPIs (Text Book Society)	5
	11. SSA (Dy. PCs)	27
	12. Senior Lecturers (DIETs)	182
	13. Lecturers (CTE)	78
	14. EOs, Akshara Dasoha Programme	27
	15. Programme Officers, SSA	4
	16. Programme Officers, TBF	2
	17. Principal, Hindi B Ed College	1
	18. SADPIs, Addl. CPI's office, Dharwar	3
	19. Dy PC s for 5 new districts	5
9 Head Masters of High Schools and Equivalent Posts	Head Masters of High Schools/ A DPIs	4414

Table CR 2

**Cadre Strength of Academic Staff of
Department of Pre University Education**

Sl. No.	Post	Cadre Strength
1.	Commissioner (IAS)	01
2.	Joint Directors	03
3.	Deputy Directors	31
4.	Assistant Directors	07
5.	Principals (Junior Class I)	907
6.	Accounts Officers	02
7.	Lecturers (Class II)	8385
8.	Librarians	130

Source: Annual Report 2006 - 07

Table CR 3

**Cadre Strength of Academic Staff in
Directorate of Vocational Education**

Sl. No.	Post	Strength
1.	Director	1
2.	Joint Directors	2
3.	Deputy Directors	4
4.	Assistant Directors	8

Source: Annual Report 2006- 07

Table CR 4

**Cadre Strength of
Directorate of Technical Education**

Sl. No.	Post	Strength
1.	Director	1
2.	Joint Directors	5
3.	Deputy Directors	6
4.	Assistant Directors	7
5.	A Category	83
6.	B Category	1402

Source: Annual Report 2006 - 07

Table CR 5

**Cadre Strength of
Department of Collegiate Education**

Sl. No.	Post	Strength
1.	Commissioner (IAS)	1
2.	Director	1
3.	Addl. Director	1
4.	Joint Directors	8
5.	Deputy Directors	6
6.	Assistant Directors	8
7.	Teaching Faculty	3307

Source: Department of Collegiate Education

ROSTER SYSTEM IN RESERVATIONS

1. SC	26. GM	51. 2A	76. GM
2. GM	27. SC	52. GM	77. 2A
3. ST	28. GM	53. SC	78. GM
4. GM	29. 2A	54. GM	79. G1
5. G1	30. GM	55. 2A	80. GM
6. GM	31. G1	56. GM	81. SC
7. G2A	32. GM	57. G1	82. GM
8. GM	33. SC	58. GM	83. 3B
9. SC	34. GM	59. ST	84. GM
10. GM	35. 2B	60. GM	85. 2A
11. 2B	36. GM	61. 2B	86. GM
12. GM	37. 2A	62. GM	87. 2B
13.2A	38. GM	63. 2A	88. GM
14. GM	39. ST	64. GM	89. SC
15. SC	40. GM	65. 3B	90. GM
16. GM	41. SC	66. GM	91. 2A
17. 3A	42. GM	67. SC	92. GM
18. GM	43. 3B	68. GM	93. SC
19. 3B	44. GM	69. 2A	94. GM
20. GM	45. 2A	70. SC	95. 3A
21. 2A	46. GM	71. ST	96. GM
22. GM	47. 3A	72. GM	97. 2A
23. SC	48. GM	73. 3A	98. GM
24. GM	49. SC	74. GM	99. 3B
25. 2A	50. GM	75. SC	100. GM

Source: GO DPAR dated 20/06/1995

Abbreviations

Percentage of Reservation

SC – Schedule Caste	15%
ST – Schedule Tribe	3%
G1– Category I – Most Backward	4%
2A – Category II (A) – Relatively More Backward	15%
2B – Category II (B) – More Backward	4%
3A – Category III (A) – Backward	4%
3B – Category III (B) – Relatively Backward	5%

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"A Comprehensive Study of the Progress of Education in Karnataka" is a book which documents the growth of education in Karnataka over the past 150 years. It deals with all sectors of education – Pre-primary, elementary, secondary, higher secondary, collegiate and technical education. It also gives a bird's eye view of all the premier institutions in the state.

The main focus of the book is of course school education – elementary education and secondary education which is discussed in all its dimensions – growth in each sector, present status as per educational indicators, new initiatives, impact of government programs, equity issues, role of private sector, financing of education, issues in education sector and future challenges. The reports of the various committees are also analysed and the status of their implementation discussed. The book consists of 21 chapters besides 5 annexures and Statistical tables.

The author D Jagannatha Rao is a retired Director of the Department of Public Instruction in Karnataka. He secured first rank in the competitive examination conducted by the Karnataka Public Service Commission in 1972 and joined the Karnataka education department as a probationary officer in 1973. He worked in the education department from 1973 till 2006 holding various positions from block level to the state level. He was the Director of Public Instruction in Karnataka from 1999 – 2006 and held the following positions –

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- Director, North East Karnataka Education Directorate,
- Director, Department of State Educational Research and Training (DSERT)

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